HEALTHNET
INTERNATIONAL

ASSISTANCE TO VULNERABLE AFGHAN REFUGEES IN PAKISTAN :
MALARIA AND LEISHMANIASIS CONTROL IN AFGHAN REFUGEE VILLAGES

UNHCR Sub - Project : 00/AB/PAK/CM/201(f)HNI

HNI Ref : PA 33

Annual Narrative Report

(1 January - 31 December 2000)

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I. INTRODUCTION

There is an estimated 1.4 million Afghan refugees still residing in officially recognised camps located inside Pakistan. These camps are located in the North Western Frontier Province (NWFP), Baluchistan and Punjab provinces. The inhabitants residing in these camps are vulnerable to disease, and special measures have been implemented by International Agencies through support activities aimed at disease prevention and improving quality of life among these impoverished populations. Political instability, fighting among rival groups, deteriorating economic situation, and an acute and prolonged drought has prevented the population to return to their homeland.

HealthNet International in collaboration with the United Nations High Commission for Refugees (UNHCR) and the Project Director Health (PDH), Government of Pakistan and partner NGOs has been actively involved in the control of malaria first and leishmaniasis later among the Afghan refugees since 1992. Province wise distribution of the refugee population is as under (data compiled from all partners' monthly reports, Dec. 2000):

North West Frontier Province	1,166,580
Baluchistan Province	201,356
Punjab Province	30,783

The project was launched with support from UNHCR with the aim of sustenance and co-ordination of malaria control activities in existing Afghan refugee camps in Pakistan. The specific objectives of the project were:

- To decrease the morbidity due to malaria and its associated mortality among the Afghan Refugees (Ars) by ensuring high standard diagnostic and treatment services.
- To decrease the morbidity due to cutaneous leishmaniasis and its associated social stigma among the ARs by ensuring provision of high standard treatment services in the BHUs supported by UNHCR/PDH and NGOs.
- To reduce the present levels of malaria and Leishmaniasis transmission in ARVs by appropriate focused and carefully monitored vector control activities.
- To carry out epidemiological and entomological surveillance of malaria and leishmaniasis in ARVs (Afghan Refugee Villages) in Pakistan in order to constantly monitor the situation, asses the impact of our program and plan for appropriate control measures.

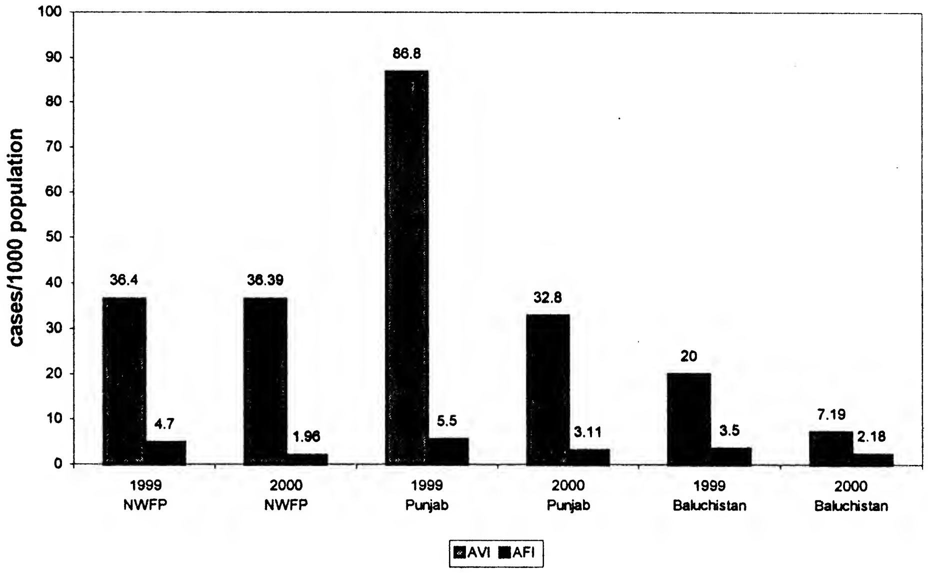
An overview of the results and achievements of this collaborative effort for the reporting period of January to June 2000 has been presented in the previous report (*Project Report; Assistance to the vulnerable Afghan refugees in Pakistan: malaria control in Afghan refugee villages. Narrative Report 1st January to 30th June 2000*). The present report highlights the activities of the project during the whole year 2000.

Overview of Malaria in the ARVs during the year 2000

Both malaria and leishmaniasis continued to remain significant public health problems among the Afghan refugees during the year 2000. It was nevertheless encouraging to note a significantly large reduction in falciparum malaria in the majority of the ARVs during the year 2000. The annual incidence of disease in refugee camps in NWFP, Punjab and Baluchistan during 2000 with its comparison for the year 1999 is shown in Figure 1. In NWFP, whilst the disease burden due to vivax malaria remained unchanged, a decline of over 70% in falciparum malaria was observed. Annual falciparum incidence (AFI) from 4.7 cases per thousand population came down to 2 cases per thousand population. Significant reduction in both forms of malaria (vivax and falciparum) was observed in refugee camps located in Punjab and Baluchistan. In the refugee camp in Punjab, the disease had been in control until 1998, when in October/ November of that year, a massive outbreak of disease occurred. In the wake of the epidemic, a large number of vivax cases were reported throughout 1999, many of whom were relapses. Intensive control measures undertaken during 2000 brought about the decline in the disease burden in the refugee camp. A detailed list showing the disease incidence among the ARVs is given in *Appendix 1*.

Figure 1

Malaria Incidence ARCS 1999,2000



Disease specific mortality data from the camps is difficult to obtain. This is because complicated and serious patients are referred to hospitals and no feedback is provided on the outcome of such cases. Secondly the dominant species of malaria in the ARVs is *P.vivax*. This is not fatal and therefore the overall mortality due to malaria in general is estimated to be low.

With the overall malaria declining in most ARVs, well planned activities, good cooperation from all implementing partners and close monitoring certainly account for these results, but there is no doubt that the drought that affected this part of Asia played the major role in this reduction of malaria. It is now obvious that major variations in climactic patterns have an impact that can be positive or negative on vector breeding, hence on transmission levels. This was evidenced by the fact that malaria in general was low in most of the ARVs. An increase in the number of cases beyond the expected number occurred in at least 4 ARVs of one of the districts in the NWFP, simulating an epidemic and prompting epidemic control measures.

II. PROJECT OUTPUTS

1. CO-ORDINATION AND SUPERVISION OF MALARIA CONTROL ACTIVITIES

1.1 Co-ordination with Implementing Partners

The annual co-ordination meeting was organised and hosted by HNI on February 23rd, 2000. A total of 21 participants from UNHCR, Project Directors Health from three provinces and representatives of nine other partner NGOs attended the meeting (list of participants attached as *Annex 2*). The purpose of the meeting was to:

- review the 1999 malaria situation,
- discuss the 1999 insecticide spray campaign,
- prepare a coordinated plan of action for the year 2000.

The recorded minutes of the meeting are attached as *Annex 2*.

The existing malaria control co-ordination committee (UNHCR, PDH, NGOs) led by HNI has conducted the following:

- planning for residual spray schedules,
- provision of insecticides,
- logistic arrangements for the spray campaign,
- joint monitoring of the spraying campaign (*Annexes 3 and 4* present the monitoring schedule and the monitoring tool respectively for the year 2000 campaign),
- management and chemotherapy for malaria cases,
- provision of laboratory diagnostic services for malaria and leishmaniasis.

1.2. Co-ordination with Health Department (Govt of Pakistan)

Increasing dialogue, discussion, sharing of information and coordination of activities were undertaken with the health department (Govt of Pakistan). These included the following:

- meetings with the Deputy Director of the Malaria Control Programme of the health department NWFP, jointly reviewing the malaria situation and in the province and providing advice on malaria control to the provincial health authorities;
- training of one malaria health worker from the provincial health department in ITN implementation strategy through a three-day workshop organised for Bednet implementers;
- training course organised for the Malaria Supervisors in survey methodology. Five persons participated from health department. Special attention was given to slide preparation and record keeping;
- a prevalence survey for malaria was carried out in collaboration with the health department in a small number of local villages. The exercise was undertaken to compare the disease between the ARVs and the local population.

1.3. Workshop on disease early warning system (DEWS) for malaria and leishmaniasis

HNI in collaboration with the National Institute of Health, Islamabad and UNHCR organised a one-day training course on DEWS for malaria and leishmaniasis in the ARVs. Participants from 14 NGO partners and HNI Afghanistan attended the course *(Annex 5)*. The purpose of the course was:

- training the health workers on how to detect impending disease epidemic early and so as to initiate early control of disease;
- close reporting, monitoring, scrutiny and analysis of data;
- principles of epidemics control.

2. DIAGNOSIS AND TREATMENT OF MALARIA

Over 44000 cases of vivax malaria and nearly 2500 cases of falciparum malaria were diagnosed and treated in the health units of different ARVs in NWFP, Punjab and Baluchistan in the year 2000. HNI provided technical assistance to enable the partners to maintain quality of services provided to the refugees. Five percent of all vivax cases and 18.5 % of all falciparum cases served in the ARVs were actually non-camp residents, either visiting refugees or local (native) individuals who sought treatment at the various ARV health care centres.

2.1. Quality control of malaria microscopy centres

Regular monitoring and evaluation of the microscopy laboratories operational in the refugee camps was carried out. Senior microscopists from the HNI Malaria Reference Centre (MRC) in Peshawar and Quetta monitored the quality of diagnostic procedures during monthly monitoring visits. A total of 22843 slides were taken for cross-checking during these visits. The overall percentage of wrongly read slides remained less than 1% (Table 1).

Table 1. Results of quality of malaria microscopy laboratories functional within the Afghan refugee camps (2000).

Province	Total slides cross-checked	Correct result	%	False –ve	%	False +ve	%	Wrong Species Reporting	%
NWFP	19410	19317	99.5	64	0.32	5	.02	24	0.12
Baluchistan	2708	2674	98.7	4	0.14	20	0.73	10	0.36
Punjab	725	724	99.8	1	0.13	0	0	0	0

2.2 Training in malaria microscopy

Training sessions on various aspects of malaria microscopy were organised for microscopists of different NGOs. The decision about the duration and the contents of these training sessions was based on the percentage of incorrectly identified slides, which were obtained for cross-checking during various monitoring visits. A summary of these activities is presented in Table 2 below.

Table 2. **Training in malaria microscopy during 2000.**

#	Duration	No of participant	Organization	Place of training
1	4 weeks	1	UAAR	Adezai lab/MRC
2	01 Day	1	PDH	BHU Pushapul
3	01 Day	1	PDH	FSMO Office Alizai
4	01 Day	1	AMWA	Jalozai
5	01 Day	1	PDH	Alizai
6	01 Day	1	FPHC	Gandaf
7	01 Day	1	KJRC	Akora 2
8	01 Day	1	PDH	Bannu
9	01 Day	1	PDH	Miran shah

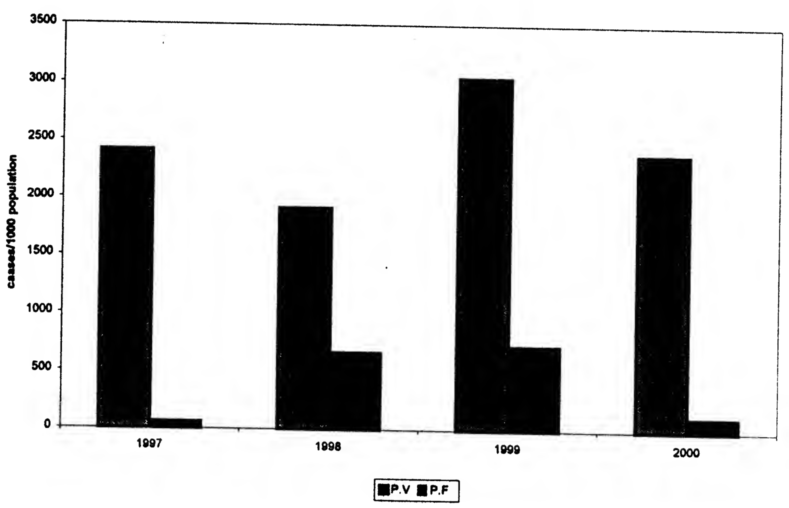
2.3. Provision of routine malaria clinical services in Adizai RV (NWFP)

A total of 12112 suspected cases were screened for malaria at the HNI unit in Adizai during the year 2000, and 3051 (25.1 %) were confirmed as having malaria. All patients were provided with prompt treatment at the health facility. Evening services for prompt diagnosis and treatment were established were set up to provide extended coverage to Adezai RV during October to December, the peak the transmission period.

Six hundred and nineteen (20.3 %) patients reporting at Adizai health unit actually were non-camp residents. A significant reduction in malaria was observed in 2000 as compared to 1999 both with falciparum and vivax malaria. (AFI declined from 148.2 to 26.82, AVI reduction from 738.8 to 532.7). (Figure 2)

Figure 2

Comparing malaria incidence in Adezai RV for 1997---2000



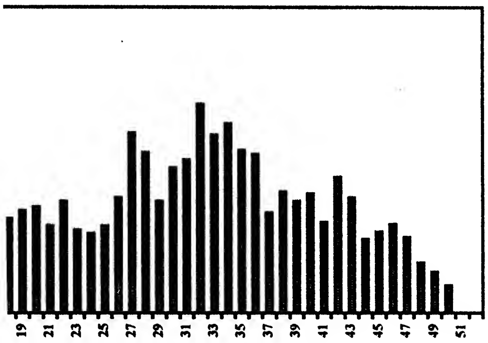
Intensive programme of health education aimed at malaria prevention was carried out at Adizai. This included advice on prompt treatment seeking, personal protection and environmental control.

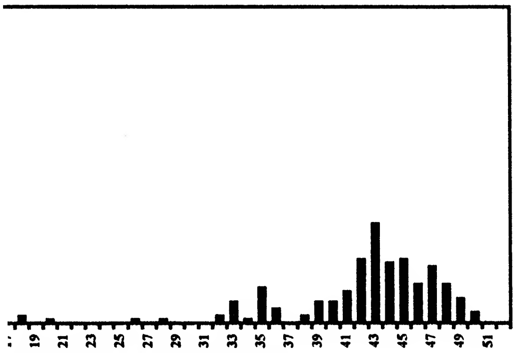
A disease early warning system was instituted in the Adizai RV, through which malaria

charts. Assessment of the disease status

ırring every week compared with previous

unately, no evidence of epidemic was





Agency

ıajaur Agency. In general for most part
ained well under control except for one
igh malaria during 1999. As a result
ards late October and early November,
ıs began to be reported from at least
Yousafabad. Careful evaluation and
) did indeed reveal higher numbers of
e overall decline in falciparum malaria,
ed suspicions of a disease outbreak.
immediately instituted and the disease

ses

- Entomology survey of the area was conducted to monitor vector density
- One round of cattle sponging was carried out to bring the vector density down.
- Additionally, *chador*, bednets and curtains were impregnated in all households in

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With compliments

the three above mentioned refugee camps.
A total of 12216 *chador* and 574 bednets were impregnated in all the three camps. Apart from these 3320 heads of cattle, goats and sheep were sponged. A total of 51.5 Liters of Deltamethrin SC 50 was consumed. (Detail report is attached as *Annex 6*).

2.5. Training: Epidemiological Basis for Malaria Control

A three-day training programme was conducted by HNI for the senior level health workers of the partner NGOs *(Annex 6bis)*. The purpose of the course was to discuss and understand:

- Basic concepts of malaria transmission
- Risk assessment in malaria, analysis of data
- Principles of malaria control, including investigation and control of epidemics
- Social, economic and behavioural factors influencing malaria control
- The role of operational research in malaria control.

Participants included Programme Managers, Field Supervisory Medical Officers (FSMOs) and senior Medical Officers *(Annex 6bis).*

3. DIAGNOSIS AND TREATMENT OF CUTANEOUS LEISHMANIASIS

3.1. Training for diagnosis and treatment of Leishmaniasis

HNI conducted different training courses on the diagnosis and management of cutaneous leishmaniasis (CL) for the staff involved in the refugee programme, as well as for the staff of the Health Department of the Govt of NWFP.

3.1.1. Basic training course for Medical Doctors and Dispensers

A two-day basic training course for Medical Doctors and Dispensers from the refugee programme was conducted on 9th and 10th of March. The objective of the training was to help the health workers diagnose and treat effectively patients suffering from cutaneous leishmaniasis. The schedule for training and the list of participants is given *(Annexes 7 & 8)*. A total of 15 participants including four female Medical Officers, the IMC Mobile Team Co-ordinator, four Medical Officers, and four Dispensers from three NGOs (IMC, KJRC and AMDA) participated in the workshop.

Following the completion of the above mentioned two-day training workshop organised by HNI (3.1.1. above), the IMC Training Co-ordinator took the initiative to organise a one-day training course for Shamshatoo mobile team and Kachagari BHU personnel. Ten participants attended the workshop. The schedule for the training and the report submitted by IMC is attached as *Annex 9*.

3.2. CL case management

3.2.1. Diagnosis

Health personnel are encouraged to diagnose the majority of CL cases clinically. However, some of the cases need laboratory confirmation. The case finding activities are summarised in Table 3 below:

Table 3. Laboratory data of cutaneous leishmaniasis cases in 2000.

District	Total Cases Examined	Positive	% Positive	Negative
Bajawar	24	10	41.7	14
Dir	71	62	87.3	9
Hangu	76	35	46.1	41
Kurram	91	2	2.2	89
Mansehra	0	0	0	0
Mardan	0	0	0	0
NW Agency	1	1	100	0
Peshawar	86	83	96.5	3
Total	***349***	***193***	***55.3***	***156***

3.2.2. Treatment

All CL cases are registered at the BHU and then depending on the clinical condition of the lesion and availability of the pentavalent antimonials the Medical Officer decides whether the patient needs treatment or not.

Due to some technical problems with UNHCR Health Information System (HIS), HNI was unable to obtain complete data for 2000 for CL from PDH. However, of the 3340 patients registered at different ARVs, 1703 (51 %) were given treatment with pentavalent antimony (Glucantime) at the BHUs. Another 786 (23.5 %) did not require treatment while 851 (25.2 %) could not receive treatment because of drug non-availability. Of those who received treatment, 1415 (83.1 %) were given intra-lesional therapy, while the remainder (16.9 %) received the treatment parentally (Table 4).

Table 4. District-wise CL case management in NWFP.

District	**Treated New Cases**		**Not treated**	
	IM	**IL**	**Treatment Not required**	**No drugs available**
Bajawar	47	128	2	3
Dir	46	165	0	0
Hangu	63	243	7	46
Kurram	34	391	776	532
Mansehra	7	7	0	59
Mardan	7	64	0	153
NW Agency	16	313	0	9
Peshawar	68	104	1	49
Total	***288***	***1415***	***786***	***851***

4. VECTOR CONTROL

Based on malaria incidence data recorded in Afghan refugee camps during 1999, availability of UNHCR resources, past and expected impact and cost effectiveness of intervention methods and geographical factors; HNI prepared a plan for vector control activities in 47 refugee camps in NWFP, Punjab and Baluchistan. The plan was discussed and shared with UNHCR, PDH, other implementing partners and our visiting internal consultant Malariologist Dr Mark Rowland.

Following the Integrated Vector Control Strategy, various interventions were implemented in the refugee camps during the year 2000. The vector control activities scheduled include:

- Household spraying with residual insecticides
- Focal spray
- Tent spray
- Livestock sponging with insecticides
- Use of insecticide impregnated Bednets.
- Impregnation of Chadars, curtains and top-sheets with insecticides
- Use of insect repellents
- Larviciding.

The vector control plan for the year 2000 is attached as *Annex 10.*

4.1. Residual insecticide spraying campaign

The selection of camps for residual spraying was based on the disease incidence of the previous year (1999). Those having a *P.vivax* incidence of ≥ 30 cases per thousand population per year and/or a *P.falciparum* incidence of ≥ 5 cases per thousand population per year were selected for residual spraying activities.

Twenty-one camps in NWFP, five in Baluchistan and one in Punjab Province were sprayed with *Lambdacyhalothrine* and *Deltamethrin.* In four camps of NWFP and one camp of Punjab, residual insecticide spraying was supplemented by the introduction of Insecticide Treated Bed nets (ITNs). The objective was to obtain 10% coverage of ITNs in the first year and to gradually increase the coverage, so that reliance on residual spraying is phased out and replaced by ITNs in the ARVs. The refugee population covered with insecticide spray is as below:

NWFP	286,888
Baluchistan	70,003
Punjab Province	30,783

4.1.1. Training activities for residual spraying

Staff members including Malaria Inspectors from partner NGOs and the Project Director Health (PDH) were trained as master trainers by HNI in:

a) technical skills for residual spraying.
b) supervision and monitoring of spraying activities.

At the field level, the Malaria Inspectors in collaboration with FSMOs and the Directors of the concerned NGOs trained the field workers.

Two one-day training workshops for the delivery of an effective spray campaign in Baluchistan were organised on 12th and 14th of June at the PDH Office in Quetta and the FSMO Office in Loralai. 6 and 11 participants attended the sessions respectively. The topics discussed during the training were:

- Spraying techniques including preparation of working dilutions for different insecticides, proper utilisation of spray pumps, preparation of rooms to be sprayed etc.,
- Safety measures during the spraying operation,
- Develop mechanisms for monitoring and evaluation of the spray activities.

Similar training programmes were conducted from 5th to 7th July 2000 for NWFP and Punjab. *(Annexes 11 A, B).*

4.1.2. Residual spraying activity

In Baluchistan, considering the epidemiological patterns of the disease, spray activities in the districts of Loralai and Quetta started during the third week of June while the campaign for District Chaghi was completed in early August. The insecticide used in the campaign was *Deltamethrin* 50 WP. A total population of 62661 refugees residing in five camps was covered by the spray campaign. The total number of houses sprayed was 5871.

The spray activities in NWFP and Punjab commenced in the month of July and were completed in August. Household spray campaign with residual insecticides was carried out in 21 highly malarious refugee camps (total population 286888) in the two provinces with different insecticides. Table 5 below shows the insecticide used and the number of houses and rooms sprayed in the three provinces during the 2000 spray campaign.

Table 5. Number of houses and rooms sprayed in the year 2000.

Province	Insecticide	Houses sprayed	Rooms/tents sprayed
Baluchistan	Deltamethrin 50 WP	5871	21114
NWFP	Icon 10 WP	12994	43884
NWFP	Deltamethrin 50 WP	19544	55254
Punjab	Icon 10 WP	2968	8838

4.1.3. Spray campaign monitoring

In order to ensure that the desired standards are maintained throughout the campaign, a thorough monitoring of the campaign was carried out. The components of this monitoring activity include:

A) Pre-spray efficacy studies of the residual insecticides,
B) Post-spray residual effect of insecticides,
C) Monitoring of the actual spraying,
D) Post-spray population surveys.

A) Pre-spray entomological studies

The effectiveness of the insecticides to be used in the year 2000 spray campaign was tested at the Adizai refugee camp insectory. The purpose of the exercise was to evaluate the efficacy of the insecticides that were used in spray campaign. These included Deltamethrin and Icon.

Samples from both the insecticides were obtained from UNHCR/CCAR Warehouse in Islamabad and were tested for their potency. Cone Bioassay tests were carried out on prepared mud blocks. Lab reared mosquitoes (15 per cone) were used. The mosquitoes were exposed to the sprayed surface for 15 and 30 minutes and the immediate mortality as well as delayed mortality after 24 hours was calculated. Satisfactory results were obtained as shown in Table 6.

Table 6. Results of the Bioassay tests on prepared mud blocks .

TREATMENT	Source of	Exposure	Mortality after exposure		
	mosquitoes	Time	No. killed after	% knocked down	% knocked down
			Exposure	Immediately	after 24 hours
Deltamethrin WP 50	Lab Reared	15 minutes	15	100%	100%
Deltamethrin WP 50	Lab Reared	30 minutes	15	100%	100%
Icon 10 WP	Lab Reared	15 minutes	14	93%	100%
Icon 10 WP	Lab Reared	30 minutes	15	100%	100%
Control	Lab Reared	15 minutes	0	0%	0%
Control	Lab Reared	30 minutes	1	7%	7%

B) Post-spray residual entomological studies

This was done to determine the residual effect of the insecticide used in the 2000 spray campaign. The insecticides were sprayed on mud walls in the experimental huts at Adizai ARV, and laboratory reared mosquitoes were exposed periodically to determine the mortality. Effective mortality in the exposed mosquitoes was obtained even after a period of 4 months post spray.

C) Monitoring of the actual spraying

Monitoring Checklists were designed and distributed to the monitoring teams from UNHCR, PDH and HNI. Different aspects of the spray campaign including the stock situation, position of the spray pumps, accuracy of the spray technique, sprayman safety and the response and co-operation of the community were recorded.

HNI,PDH and partner NGOs monitoring teams checked 50 spray squads in NWFP during their visits. A brief analysis of data collected is presented below:

- 75.4% of the pumps were in proper working condition while the remaining 24.6% of the pumps had problems with pressure gauge, relief valve and/or filter.
- Various aspects of the spraying technique like the maintenance of adequate pressure, the distance of the nozzle from the spraying surface, the width of the spray swath and the velocity of spraying were recorded in full detail. It was found out that in 92.3% of cases the technique applied by spraymen was adequate, while the remaining 7.7% were not very careful in this regard. On the spot training was provided wherever some fault was observed.
- 24.1% of the spray workers were using the protective clothing while the remaining refused to wear the cloths being of Nylon material which caused excessive sweating among users.

- 98.2% spray workers were using masks while 76.1% were wearing gloves provided.
- 86.2% of the rooms being sprayed were properly vacated and in 98.2% of the houses adult males were present to help the spray squad.

D) Post-spray population survey

A community evaluation survey was conducted in September/October after the completion of the spray campaign activities. The objective of the survey was to validate the quality, coverage, and the community's satisfaction with the spray campaign in the field. 8 camps out of 21 in three districts were selected randomly. 25 randomly selected households were surveyed from each camp. A brief analysis of the survey reveals that:

- 95.5% of the household respondents interviewed claimed that their houses were sprayed.
- Almost 97.4 % of the families were aware of the schedule of spray in their locality in advance. The health personnel were able to inform the families to prepare their houses for spray 2.5 days before the activity on the average.
- Spraying covered over 95.4% of the rooms in the houses. The remainder was left out because the owners could not clear the rooms.
- Questions regarding the spraying of verandahs, animal rooms and ceilings were asked specifically as these sites are usually left unsprayed. However, it was observed that most of these sites were sprayed and only 0.5 % of the ceilings, 6.4 % of the verandahs and 3.2 % of animal rooms were left out during spraying.
- 82.7 % of the household members noticed a reduction in mosquito bites after the spray, validating the efficacy of the insecticide from societal point of view.
- An interesting finding was the high rate of re-plastering of walls in the sprayed houses. Almost 21.7 % of the households reported that they plastered some of the rooms after the spray campaign. People have the tradition to replaster their mud houses after the end of monsoon rain. The issue needs to be addressed more clearly in mass meetings and health education sessions.

4.2. Focal spray

Spraying selected areas within the camps, i.e. focal spraying, under certain circumstances is a more useful and cost-effective method for controlling malaria than "blanket" spraying. This was implemented in 5 camps in NWFP and Baluchistan. The basis for adapting this strategy was the observation that malaria tends to cluster in populations and houses built around (and close to) water holes, ponds and streams.

Fifty percent of the population of Chaghi, Girdi Jungle and Muhammad Khel Refugee Villages in Baluchistan were covered by spray. The strategy was initiated during the 1999 spray campaign and showed promising results. Similarly, the malaria cases in Jalala camp in NWFP were mapped for the distribution of *P.falciparum* infection and because of this activity Perkhu camp (a small population cluster of Jalala refugee village) was sprayed.

Since Cutaneous Leishmaniaisis cases are also known to cluster within households, HNI vector control team visited two camps in North Waziristan Agency (Dargamandi and Darpakhel) and the incidence of Cutaneous Leishmaniasis during 1999 was plotted on maps. The resulting evidence of the focal distribution of the disease was used as basis for applying the strategy of focal spray in these two camps. Maps depicting the disease distribution in these three camps are attached as *Annexes 12 a, b and c* respectively.

4.3. Tent Spray

Tented Refugee Villages with high malaria incidence rates were sprayed with Deltamethrin EC 15 formulation. Deltamethrin EC 15 was selected for tent spray instead of Permethrin EC 25 because of its prolonged residual effect and ability to withstand adverse environmental conditions. The tented population in Azamwarsak (South Waziristan Agency) was sprayed with Deltamethrin EC 15. PDH's Malaria Inspector for the area was fully briefed on various aspects of use of this insecticide.

4.4. Cattle Sponging

Cattle sponging campaigns have been carried out in Hangu since 1995. This activity continued in two camps namely Kotki 1 (population 6,506) and Kotki 2 (population 4743). In Kotki 2, cattle sponging was supplemented by sale of Insecticide Treated Bednets during the year 2000.

The activity was conducted in three rounds during the months of July, August and September, where all the livestock present in these camps were sponged. IRC Hangu conducted cattle census in these two camps before the implementation of the activity.

Preliminary training to the spongers and diluters hired for the campaign and the BHU staff was organised before the initiation of the campaign. HNI's cattle sponging officer, a veterinary doctor closely monitored the campaign and the project team remained in the field throughout the activity.

A total of 11859 heads of cattle, sheep and goats were sponged during the campaign. Detailed reports of the activities are attached as *Annexes 13 a, b.*

4.5. Insecticide Treated Bednets

In collaboration with all the Implementing Partners, the activity has been initiated during the year 2000 in twenty one refugee camps (20 in NWFP and 1 in Punjab Province). The list of the selected camps and district wise sales is attached as *Annex 14 a,b.* The criteria for the selection of camps, ITN sales and various other policy matters were discussed in detail and agreed upon during the annual malaria co-ordination meeting *(Annex 2).*

A slightly different policy for the sales of Bednets was adopted for the camps in Haripur, the reason being that SC-US purchased 2000 nets from HNI during 1999 from the OPD fee collection funds. The minutes of the meeting with SC-US regarding ITN sales in Haripur are attached *as Annex 15.*

Before the start of the distribution, the assessment of the acceptability and feasibility of the intervention in the community was ascertained through conducting KAP surveys in the target communities. Similarly, in order to develop the required skills among the project implementers, training workshops were organised. A total of 2590 bednets, the required insecticide for impregnation and the related kits and educational materials were provided to the Implementing Partners after mutual agreement contracts were signed *(Annex 16)*. The sales activity is under the responsibility of the respective implementing agencies and HNI teams regularly monitored the sale in the field.

4.5.1. Pre-implementation KAP surveys

Surveys of the knowledge, attitudes and practices of the community (KAP surveys) were carried out during the first week of May, before the implementation of the project. A total of 934 households were interviewed in 10 camps. The details are given in Table 7.

Table 7. Pre Implementation KAP surveys (NWFP).

S. No	District	Camp	Population	Sample Size (HH)
1	Bajawar	Kerala	8365	62
2	Bajawar	D. Dola	15307	69
3	Hangu	Naryab	5543	71
4	Hangu	kotki 2	5781	64
5	Hangu	Dalan	10990	102
6	Hangu	Katakana	8437	110
7	Kohat	Gamkol	24117	123
8	Kohat	Oblan	10000	97
9	Peshawar	Azakhel 1	12654	114
10	Peshawar	Badaber (MM)	11000	122

Analysis of the KAP surveys conducted is attached as *Annex 17.* The results of the survey analysis were shared with all the concerned partners.

4.5.2. Staff training

Two-day training workshops were organised for the implementers (Community Health Supervisors, Malaria Inspectors and other related staff). The implementers were trained in two batches on 18th, 19th May and 1st and 2nd of June. A total of 41 participants from seven agencies including Health Department NWFP, PDH, IRC, UAAR, SC-US, FPHC and Lajnat-ul-Dawa-al-Islamia attended these training workshops. One Senior Microscopist from the Directorate General Health (NWFP) was also trained during these sessions. The lists of the participants who attended both these workshops are attached as *Annex 18.*

Various operational and technical aspects (both theoretical and practical) of the ITN programme implenentation were discussed during theses sessions. The training schedule is attached as *Annex 19.*

4.5.3. Community mobilisation/sensitisation ccampaigns

Various Health Education materials including flip charts, banners, calendars, posters and health education leaflets depicting messages regarding the proper use and maintenance as well as the benefits of ITNs were disseminated in these camps. A community sensitisation session for the Community Health Workers, members of the Health Committee and other prominent community members in Kotchandna refugee camp in

Punjab was conducted on 7th July 2000.

4.6. Impregnation of *chadar,* curtains and top-sheets with insecticide

4.6.1. Mass campaigns

In Chitral District the campaign started on 29th March 2000 and was completed by 21st April 2000. *Chadar*, curtains, top-sheets and the existing bednets in nine refugee clusters (population 11500) were impregnated with Deltamethrin SC 50. HNI's team supervised various technical and operational aspects (record keeping, insecticide usage, preparation of working dilutions of the insecticide etc.) while the concerned Community Health Supervisors and the Community Health Workers conducted the overall activity. The important aspect of this campaign, which deserves attention, is that no labor wages/costs were paid at all and the activity was completed exclusively through community participation. The detailed report of the campaign is attached as *Annex 20.*

4.6.2. "Zamen Kits"

Based on the recommendations of Dr Mark Rowland, the strategy of providing Chadar impregnation kits on cost recovery basis was implemented in Adezai and Naguman refugee villages. The kits include 8-ml Deltamethrin SC 50 bottles, gloves, health educational leaflets and instructions on the use of insecticide. The price for each kit was Rs. 20 and was provided to users through the BHUs. A total of 96 kits were sold in two camps.

4.7. Use Of Insect Repellants

Small-scale research to find the efficacy of Mosbar (DEET + Permethrin-based insect repellant) in preventing malaria was conducted during 1999 by HNI. The trial showed promising results in its ability to reduce *falciparum* malaria if used regularly and properly.

It was planned that Mosbar would be implemented as malaria control intervention in five refugee camps in combination with other interventions during the year 2000. Bars would have been sold through BHUs on cost recovery basis (at the rate of Rs 25-30 per bar which will be sufficient for two about months for one person). However, the proposed budget was not accepted by UNHCR because of their limited budget, and Mosbar distribution on cost recovery basis could not be implemented.

4.8. Larviciding

Larviciding was conducted as a pilot project in one camp in Baluchistan (Malgagai) where all the necessary preparatory work had been completed. Entomological surveys to ascertain the densities of *anopheline larvae* in breeding places were performed during the month of May. The larval surveys revealed nine *anopheline larvae* per dip on average showing that Larviciding can be an effective strategy for controlling the vector densities in the area. The detailed report of the larval surveys is attached as *Annex 21.*

Practical training was imparted to the concerned Outreach Workers for the identification of *anopheline/culicine larvae* with all the four stages. The Outreach Workers performed the activity on a fortnightly basis where all the active breeding sites, which had already been mapped out were sprayed with Abate 500 EC (see *Annex 22*).

5. OPERATIONAL RESEARCH IN MALARIA AND LEISHMANIASIS CONTROL

Dr. Mark Rowland visited HNI under an internal consultancy programme. Following extensive review of activities and discussions with different partners involved a plan of action for operational research in malaria and leishmaniasis was prepared. The major areas identified for this purpose were:

5.1. Effectiveness of Icon and Deltamethrin WP

5.1.1. A community based trial on the effectiveness of Icon and Deltamethrin was carried out in six ARVs in Hangu District (2 ARVs sprayed with Icon, 2 with Deltamethrin and 2 ARVs left unsprayed). In each camp 4 houses with cattle were selected. The 16 selected houses in the 4 sprayed ARVs were specifically left unsprayed. Flitting was carried out for one night in each camp monthly from early July (pre-spray) to November. Vector types, densities and longevity were studied. Preliminary analysis of data is suggestive of both insecticides showing residual impact.

5.2. Cattle Sponging

5.2.1. Available evidence indicates that Cattle Sponging is cost effective and should have a significant future for epidemic control and a substitute for intra-dwelling residual spraying (IRS) in Asia. The intervention was carried out in two camps in Hangu valley. Entomological monitoring of the campaign was carried out. Mosquitoes were collected each month before and after the treatment from animal sheds and living rooms in these camps. Identical collections were undertaken in two sprayed villages and two untreated villages to serve as controls for comparison.

5.2.2. Entomological evaluations were carried out at Azakhel Field Station to determine whether there is a need to treat goats and sheep in addition to cattle. Initial results indicate that treatment of goats also leads to higher mortality rate than treatment of cattle alone.

5.3. Larviciding

The proposal to introduce Larviciding in NWFP camps was put on hold until more information is obtained about the range of breeding sites in the camps and the appropriateness of Larviciding. The adult mosquito and larval surveys, which began last year in a range of camps in NWFP, will be continued this year as well. The late fourth instar larvae and pupae were collected and reared to adulthood for identification. The following 18 ARVs were surveyed in 2000:

> Chichana, Gamkol, Oblan, Shahpoor, Shindand, Azakhel, Badaber, Dag Behsood, Adezai, Khurasan, Jalala, Jalozai, Khweshkai, Khazana, Naguman, Shamshatoo and Utmanzai.

5.4. Cutaneous Leishmaniasis

Control of CL will be easier after the transmission pattern is better understood. Issues requiring more clarity are the type of vector, densities over time, the use of IRS as an intervention, the timing of the spray and its effectiveness. Sand fly collections were carried out every month beginning in May. Six houses (3 with cattle and 3 without) were selected from each village and sand flies were collected from outdoors, indoor and animal sheds using light traps and sticky papers. Variables of interest were:

- Sand fly density and type
- Distribution over time
- Impact of IRS on densities
- Association of Sand fly density with cattle ownership.

5.5. G6PD deficiency tests in Adizai for radical treatment of vivax malaria

The incidence of vivax malaria in the ARVs has remained high and one reason is the high relapse rate among the patients. It is estimated that each case of vivax relapses almost three times on average. To radically treat a patient with vivax malaria, a 14-day therapy with primaquine is necessary for the elimination of tissue forms of the parasite. The problem though is a) the adverse reactions to primaquine in patients who are G6PD deficient, and b) compliance to the 14-day primaquine treatment. A study was conducted in Adizai to:

i. carry out G6PD testing among patients suffering from vivax malaria,
ii. compare supervised vs un supervised radical treatment for vivax malaria.

Seven hundred individuals in Adizai were tested for G6PD deficiency and 32 (4.6 %) were found to be deficient. A total of 560 patients were enrolled in the trial for supervised vs unsupervised primaquine treatment. The patients are being followed up, and initial results appear encouraging in that there are no significant differences in the relapse rates among the two groups. This suggests that with good health education messages, the compliance on 14-day radical therapy for vivax malaria is satisfactory.

5.6. Evidence of chloroquine resistance to *P.vivax*

A study was initiated in two ARVs Adizai (Peshawar) and Thal 1 (Hangu) to determine evidence for chloroquine resistance to *P.vivax* infections. No evidence of resistance has emerged in over 125 patients tested so far. The study is on-going.

5.7. Use of alternate drug combinations in *P.falciparum* infections

The resistance to chloroquine in *P.falciparum* infections is high. In a search for effective therapy against falciparum malaria a drug trial supported by WHO has been initiated in Adizai ARV using drug combinations that include chloroquine, Fansidar and Artisunate. The trial is ongoing, and will run through 2001 before conclusive results are obtained.

III THE IMPACT OF OUR WORK ON:

1. Women, Children and Adolescents

There is no gender discrimination in terms of malaria. Both genders are equally affected but as pregnant women and children are at a higher risk of contracting severe disease, the policy followed is that these groups should be given priority in terms of use of Bednets and other means of self-protection. Moreover, the monthly malaria reports segregate the positive cases by age and gender. Pregnant ladies contracting malaria were dealt as high-risk cases.

2. Environment

The residual insecticides used by UNHCR (Pyrethroid group) have limited toxic properties and are harmless to non-insects and the environment. Moreover, techniques like Cattle Sponging and the use of Insecticide Treated Bednets and other materials, which have least or no adverse environmental effects, are being introduced to replace residual spraying in the future.

As environmental modification is a method of controlling malaria, the Health Education messages delivered to the communities emphasized on various aspects of sanitation, disposal of waste and the ways to have a cleaner environment.

4. Community Participation / Self-Reliance

Most of the activities carried out in the refugee camps rely on participation from the community. Continued efforts to involve the refugees in malaria control are under way. Various aspects of the cooperation and help from the community are recorded in the spray monitoring checklists. The introduction of ITNs and Zamen Kits at partial cost recovery basis is a further step towards self-reliance and creation of a malaria control culture.

Social evaluation surveys, KAP surveys meetings with Health Committees and community sensitization sessions were regularly held before and after the implementation of various activities and the activities were organized in the light of information obtained.

IV. SUMMARY OF REASONS BEHIND INCREASE IN YEAR 2000 BUDGET

There was an increase in year 2000 budget compared to 1999. The reasons behind this increase in budget are:

- Need for further staff to implement Bednet project.
- Recruitment of Health Workers for extensive health education and community mobilization campaign in target villages.

- Operational research is always the integral part of an effective malaria control program. Previously the costs of the activity were covered from the TDR fund provided by WHO, but during 1999 due to shortage of program evaluation funds, UNHCR was requested for financial support to fund this important component of the project.
- Previously the budget for training in malaria and leishmaniasis was provided to the PDH. To simplify the procedures, the amount has been transferred to HNI budget.

V. CONSTRAINTS CONFRONTED

1. Technical problems were faced while using UNHCR Health Information System (HIS). The outcoming analysis is so far extremely unreliable because of a fault in the software designed by CDC-Atlanta. Timely reporting of data from the ARVs is always difficult. (The reports attached are basically extracted from HNI database generated by HNI staff personally collecting data from the field.

2. Shortage in drugs for the treatment of cutaneous leishmaniaisis. Many patients are left untreated as a result.

3. Inadequate protection for the spray men, and community behavior regarding re-plastering of their houses following residual spraying, limit the usefulness of residual spraying.

Annex 1

ANNUAL INCIDENCE OF MALARIA AMONG AFGHAN REFUGEE CAMPS (2000)

NWFP

DISTRICT	Camp	Population	TSE	PV	PF	AVI	AFI
BAJAUR	D.DOLA TOTAL	15574	6012	1418	144	91.05	9.25
BAJAUR	KERALA	8532	3911	854	87	100.09	10.20
BAJAUR	NAWAB ABAD	9503	3914	419	19	44.09	2.00
BAJAUR	SHAJEHAN ABAD	10949	2622	489	4	44.66	0.37
BAJAUR	YOUSAF ABAD	11613	5276	1313	107	113.06	9.21
BANNU	GAMBILLA (S)	6660	815	0	0	0.00	0.00
DI KHAN	AZAM WARZAK	16302	1974	326	43	20.00	2.64
DI KHAN	PUSHA PUL	6013	668	88	33	14.63	5.49
DI KHAN	WACHAKORA	10566	739	249	33	23.57	3.12
DI KHAN	ZARI NOOR	20386	1293	489	110	23.99	5.40
DIR	CHAKDARA	16508	1076	11	0	0.67	0.00
DIR	MAYAR	9542	745	143	1	14.98	0.10
DIR	TIMER	12490	1596	35	0	2.80	0.00
DIR	TOOR	11926	4890	1475	19	123.60	1.59
HARIPUR	BARARI	18814	529	51	1	2.71	0.05
HARIPUR	BASOMERA	11646	2861	417	10	35.81	0.86
HARIPUR	BHU 1	15698	2686	362	3	23.06	0.19
HARIPUR	BHU 2	13074	2804	353	0	27.00	0.00
HARIPUR	BHU 3	21898	2464	331	1	15.12	0.05
HARIPUR	BHU 4	14835	2164	302	2	20.36	0.13
HARIPUR	ICHRIAN	12213	768	156	2	12.77	0.16
HARIPUR	KHAKI 5	26605	2606	1122	4	42.17	0.15
HARIPUR	SCF GHAZI	12924	1166	55	0	4.26	0.00
HARIPUR	SHU (Deenda)	17573	1973	239	4	13.60	0.23
KOHAT	DALAN	9258	4085	753	15	81.34	1.62
KOHAT	DARSAMAND	19062	8440	2303	22	120.82	1.15
KOHAT	DOABA	11298	2852	833	25	73.73	2.21
KOHAT	GAMKOL 1	15276	1753	248	5	16.23	0.33
KOHAT	GAMKOL 2	15263	1497	184	3	12.06	0.20
KOHAT	KAHI	7993	4142	1180	71	147.63	8.88
KOHAT	KATAKANA	8837	2767	404	7	45.72	0.79
KOHAT	KHOTKI 1	6506	5003	987	29	151.71	4.46
KOHAT	KHOTKI 2	4743	4883	789	22	166.35	4.64
KOHAT	L.BANDA	12674	6960	1484	7	117.09	0.55
KOHAT	M.KHOJA	9466	10246	2391	228	252.59	24.09
KOHAT	NARYAB	4832	2300	798	43	165.15	8.90
KOHAT	OBLAN	15281	1002	132	1	8.64	0.07
KOHAT	SHAHPUR	12644	1021	165	21	13.05	1.66
KOHAT	THALL 1	9876	8400	1417	63	143.48	6.38
KOHAT	THALL 2	17703	5135	802	8	45.30	0.45
L KURRAM	BAGZAI 1	12251	1635	212	14	17.30	1.14

L KURRA	BUSHER	10278	1773	291	6	28.31	0.58
L KURRA	CHAPRI	5220	1165	123	13	23.56	2.49
MARDAN	BAGHICH	9871	5422	448	2	45.39	0.20
MARDAN	BARAKAI	42907	5728	204	5	4.75	0.12
MARDAN	DARGAI	8640	1013	54	1	6.25	0.12
MARDAN	GANDAF	15737	6351	334	13	21.22	0.83
MARDAN	JALALA	16507	3153	592	32	35.86	1.94
MARDAN	KAGAN	3849	5416	323	0	83.92	0.00
MARDAN	PALAI	3940	998	107	2	27.16	0.51
MIRAMSH	DARGAM	13267	534	5	4	0.38	0.30
MIRAMSH	DARPAK	15646	565	3	0	0.19	0.00
MIRAMSH	MATCH F	21652	780	8	1	0.37	0.05
PESHAW	ADIZAI	4475	12112	2384	120	532.74	26.82
PESHAW	JALOZAI	34435	3894	362	19	10.51	0.55
PESHAW	ZANGALI	11636	1245	176	30	15.13	2.58
PESHAW	AKORA 1	16840	797	48	4	2.85	0.24
PESHAW	AZAKHEL	13589	4540	269	2	19.80	0.15
PESHAW	AZAKHEL	16965	3631	327	0	19.27	0.00
PESHAW	JALOZAI	32523	1336	151	4	4.64	0.12
PESHAW	KHAIR AB	7883	1899	243	12	30.83	1.52
PESHAW	AKORA 2	15937	1267	75	9	4.71	0.56
PESHAW	AKORA 3	13192	1517	287	3	21.76	0.23
PESHAW	BADABER	11000	2630	853	11	77.50	1.00
PESHAW	BADABER	17324	2415	640	19	36.94	1.10
PESHAW	BAGHBA	23139	3890	375	20	16.21	0.86
PESHAW	KABABIA	16806	2416	45	3	2.68	0.18
PESHAW	KACHAG	33643	4812	765	18	22.70	0.53
PESHAW	KATCHU	19878	3112	190	6	9.56	0.30
PESHAW	KAZANA	16734	3147	247	2	14.76	0.12
PESHAW	KHURAS	15160	1777	201	134	13.26	8.84
PESHAW	MUNDA P	14650	4939	220	0	15.02	0.00
PESHAW	NAGUMA	5252	5473	1684	26	320.64	4.95
PESHAW	NASIRBA	30584	2615	113	5	3.69	0.16
PESHAW	NASIRBA	17463	3339	207	2	11.85	0.11
PESHAW	NEW NAS	14190	1837	348	5	24.52	0.35
PESHAW	UTMANZ	8421	1184	44	2	5.23	0.24
UKURRA	M.KOT	9924	1494	214	11	21.56	1.11
UKURRA	SATIN	12462	2545	709	28	56.89	2.25
UKURRA	SHASHU	15287	1968	389	25	25.45	1.64

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BALUCHISTAN

District	Village	Popul	PV	PF	AVI	AFI
Chaghi	Amri	3297	17	0	5.1562	0
Chaghi	Chaghi	10916	31	3	2.83987	0.27483
Loralai	Ghazgi Minara	8116	65	29	8.00887	3.57319
Chaghi	Gridi Jungle	30888	90	0	2.91375	0
Loralai	Katwai	11377	91	21	7.99859	1.84583
Chaghi	Leji Karez	3372	53	1	15.7177	0.29656
Quetta	M.Khel	7828	25	7	3.19366	0.89423
Zhob	Malgagai 1	2330	8	0	3.43348	0
Pishin	New Saranan	25586	44	0	1.71969	0
Chaghi	Peshuk	1488	14	0	9.4086	0
Pishin	Pir Ali Zai 2	13688	67	18	4.8948	1.31502
Pishin	Pir Ali Zai 3	9621	48	5	4.98909	0.5197
Chaghi	Posti	12086	42	0	3.4751	0
Loralai	Spedar	1348	15	2	11.1276	1.48368
Pishin	Surkhab 4	9490	25	13	2.63435	1.36986
Pishin	Surkhab-Modle	10925	99	15	9.06178	1.373
Loralai	Zarkarez 1	4512	114	21	25.266	4.65426
Zhob	Malgagai 4	5115	34	4	6.64712	0.78201
Loralai	Zarkarez 3	5434	103	16	18.9547	2.94442
Pishin	Pir Ali Zai 1	8945	7	0	0.78256	0
Pishin	Old Saranan	6537	88	6	13.4618	0.91785
Pishin	Surkhab 5	8457	34	0	4.02034	0

PUNJAB

Mianwali	Kotchandana	30783	948	80	30.79	2.66

NOTES FROM THE INTER-PROVINCIAL MALARIA AND LEISHMANIASES COORDINATION MEETING HELD AT HNI ON 23 FEB 2000

The annual inter-provincial malaria and leishmaniasis co-ordination meeting was held at Health Net International (HNI) Office on 23 February 2000. The list of participants is given in Annex-1.

Opening by Dr. Muhammad Abdur Rab:

Dr. Abdur Rab, Technical Adviser, HNI chaired the meeting. He welcomed all the participants and briefly reviewed the malaria situation which is still one of the major public health problems for the Afghan refugees throughout the country. The data suggests that NWFP is at the forefront of the disease as far as the total number of cases is concerned with reported 47,000 *vivax* and 6,000 *falciparum* cases in 1999 representing an increase of 11.3 and 14.5% respectively in comparison to 1998. Similarly, an increase in *P. vivax* cases during 1999 was noted in Punjab, and this was most likely the result of the sudden outbreak of the disease that occurred in October/November 1998. In Baluchistan malaria has maintained a significant decline.

As for the reasons of this increase in malaria incidence despite all our efforts, Dr. Rab explained that it is probably caused by multiple factors, including resistance of the vector mosquitoes to the insecticides, parasite resistance to antimalarial drugs, changes in weather patterns and other environmental alterations favouring the breeding of vector mosquitoes. Ironically parallel increase or decrease has been reported from the Eastern and Southern parts of Afghanistan bordering NWFP and Baluchistan, which suggests that malaria has kept the same pattern on both sides of the border. Moreover, a systematic data recording all over the world has proved that malaria surge follows a certain cyclical pattern.

Control strategies have, nevertheless, played an important role. The analysis supports the viewpoint that in the absence of spray or other interventions the situation would have been worse. However, the answer to control malaria and leishmaniasis does not lie in residual insecticide spraying only, but it has to be supported/replaced by alternate cost effective, sustainable and acceptable interventions, e.g. environmental control, Insecticide Treated Bednets and other Materials, Health Education and measures for personal protection.

Presentation by Dr. Fayaz Ahmad:

Dr. Fayaz briefly discussed the role of HNI in provision of technical advice to UNHCR and the Project Directorates of Health for Afghan refugees in the three provinces for their Malaria (and subsequently) leishmaniasis control program which is integrated within PHC. Control strategies adopted in 1999 like strengthening the clinical component, various vector control interventions, human resource development and operational research were reviewed.

Review of the 1999 malaria situation:

The overall 1999 malaria situation was compared with the 1998 figures. During 1999, malaria incidence in Baluchistan declined by 58.2% for *P. vivax* and 37.64% for *P. falciparum* malaria as compared to 1998. There was a slight rise in NWFP (Annual *vivax* incidence raised from 32.03 to 36.4 and annual *falciparum* incidence from 3.22 to 4.7). Incidence *of P. vivax* raised from 49.1 to 86.8 while *P. falciparum* incidence declined by almost 46% in Punjab.

Spray campaign 1999:

Various vector control measures planned and implemented during 1999 were discussed in detail.

During 1999, 30 camps in NWFP and Baluchistan were sprayed with residual insecticides while in two camps in Hangu the intervention was combined with Cattle Sponging. Spray campaign 1999 was closely monitored and the findings of various monitoring activities were discussed in detail. These activities included monitoring of the actual spraying, pre and post spray entomological activities and post spray population surveys.

Discussions:

All participants expressed serious concern regarding rise in the malaria incidence despite our efforts to contain it. It was, however, felt that the control interventions have proved useful otherwise the situation would have been worst. The results of various entomological studies and the disease incidence petterns observed which displayed the effect of various intervention strategies were also presented.

There was a general concesus that health workers were ill prepared to deal with an outbreak of malaria. One reason was the lack of adequate guidelines to tackle such a situation. It was recommended that such guidelines should be provided to health workers to facilitate control of the outbreaks of the disease. HNI will distribute the guidelines but it should be noted that decisions of dealing with a malaria outbreak depends on a host of factors (evolution of the outbreak, population dynamics, malaria endemicity, environmental factors, availability of resources, vector bionomics...). Field workers, nonetheless, need to have the required expertise to anticipate and timely report any malaria outbreak.

Recommendations:

- It was observed that, although spray pumps were repaired well in advance, most of the pumps were found to have problems in the field. In order to solve the problem, it was decided that:
  a) spray pumps to be used during the year 2000-spray campaign will be repaired through a local pump factory near Mardan. The factory was visited by EESS Senior Sanitary Engineer from UNHCR Geneva last year and he expressed his satisfaction over the quality of work there.
  b) Mr Dost Muhammad (UNHCR SOP), Deputy director HIS/MLCP (PDH) and HNI will jointly visit the factory and explore this possibility.
  c) As the supply of spare parts was not satisfactory and shortages were reported during the 1999 spray campaign, the possibility of purchasing the required spares for the pumps from the same factory will also be considered.
- UNHCR will arrange for the purchase of locally manufactured sprayers. However, before the placement of order for large quantities, the pumps will be field-tested.
- It has been observed during the 99 spray campaign that the spray personnel were not careful in the maintenance of spray pumps (e.g. pumps were not washed at the end of the days work, blocked nozzles were opened with needles etc). HNI proposed that if the pumps are numbered and then issued to each sprayman, the condition of the pump could be checked at the end of the campaign and mishandlers identified.
- It was pointed out in the UNHCR EESS mission report that *complete* protective clothing kits for spraymen protection were necessary. The issue of procuring standardised kits was discussed in detail. Finally it was decided that UNHCR will purchase and import the kits for the year 2000 spray campaign.
- Post spray population surveys show that almost 27% of the household had plastered their rooms after the spray. The issue needs to be addressed more clearly in mass meetings and health education sessions organised before the spray campaigns.
- Analysis of the spray reports show that the average number of pumps sprayed per sprayman per day was found to be 11 pumps per day as against the recommended 14-18 pumps/day. The indicator will be followed up more closely so as to avoid the unnecessary wastage of the scarce resources.

Cutaneous leishmaniasis:

The situation of leishmaniasis in 1999 was discussed. 19 camps throughout NWFP reported cases of the disease. The incidence of the disease per thousand population varied from 21 cases in Timer to 0.1 in Katakana. Generally, the disease seems to be raising and there were concerns about this rise because of the imported nature of the disease. In camps with lower prevalence rates, CL is most probably imported from endemic areas in Afghanistan. However, the available evidence suggests the establishment of local transmission of the disease in camps with higher prevalence rates.

In case of absence of the evidence of local transmission, early diagnosis and prompt treatment of the cases serve as an effective control intervention in the case of CL due to Leishmania tropic infection, which is the case here. Efforts to strengthen this capacity are underway and will continue throughout 2000.

Recommendations:

The following are the recommendations:
- Initiation of training programs with respect to diagnosis and treatment of the disease.
- Enhanced surveillance through active reporting, preferably on a fortnightly basis to identify and foresee any impending epidemic.
- Policy of provision of adequate treatment to the neighbouring indigenous cases as well as the refugees.
- Adoption of vector control strategies in areas of high endemicity.

Dr Naveeda Bano briefed the house about the results of the joint UNHCR/CCAR efforts for the registration of anti-leishmania drugs. However, it may take long and in the meantime UNHCR will procure the medicine to treat about 2000 cases during the current year.

Proposed interventions for 2000:

Besides the routine residual insecticide spraying, HNI is planning to adopt Insecticide Treated Bednets (ITNs) and Larviciding as control interventions during the year 2000. Various aspects of these new interventions were presented and discussed.

Impregnated Bednets:

The long term cost effectiveness and sustainability of the method has made it one of the strategies of Roll Back malaria initiative adopted by WHO. It was clarified that the introduction of Bednets and its use in a community cannot guarantee decrease in malaria incidence right away. However, when the Population coverage rates increase over the years, it is hoped that this may help redress the situation.

Some 6,000 Bednets will be purchased through international procurement by UNHCR Headquarters for Pakistan. HNI will select camps based on a certain criteria in which these bednets would be sold to the community and would be regularly re-impregnated.

Detailed discussions took place as to the cost, affordability, willingness, and sustainability of the bednet programme. The community preparation process also came up for discussion. In particular, the issue of providing subsidy to the community on the purchase of bednets was minutely discussed. The options presented and discussed were:

- Full cost recovery.
- 13% (or any other percentage) flat subsidy on all ITNs.
- Full cost recovery + 60% subsidy on every sixth net which will be distributed to e.g. camps with highest malaria incidence.
- Use of OPD fee collection amounts decided by individual agencies.
- Begin with full cost recovery to cover the population who can afford it and subsequently reduce the price after identifying the vulnerables.

Decisions:

After taking into consideration all the pros and cons, it was decided that the bednets would be sold on full cost recovery basis. However, 8% of the cost (which should be considered as operational costs rather than subsidy) would go to the CHSs/CHWs as incentive for convincing the buyers, impregnation, and re-impregnation, health education and keeping track of the bednet records. All efforts to ensure that bednets are provided to the communities as a malaria control tool (i.e. bednets plus health education package regarding its use, impregnation/re-impregnation, benefits, some basic knowledge about malaria etc etc) and not merely a commodity.

Moreover, it was also agreed to have a uniform policy regarding the cost recovery throughout the country. Maintaining such a policy was felt to be important in order to minimise leakages and maintain the confidence of refugee communities.

2000 Spray Plan:

The spray plan for the year 2000 will be prepared on the basis of 1999 malaria and leishmaniasis incidence data (Annex-2). A copy of this was shared with the participants in the meeting and they were requested to report any changes in the population figures to HNI within one week so that the spray plan can be finalised.

Conclusion:

The meeting concluded with a vote of thanks to HNI for having hosted this very useful occasion. Dr. Rab also thanked all the participants for their understanding of the situation and valuable contributions to the meeting.

APP 2/6

LIST OF PARTICIPANTS
ANNUAL MALARIA COORDINATION MEETING
HELD AT HNI ON 23 FEBRUARY 2000

1. Dr. Abdur Rab, Technical Adviser, HNI
2. Dr. A.H. Muntazir, Project Manager, UAAR
3. Dr. Amanullah, Medical Officer, CWS
4. Dr. Muhammad Zahir, Project Manager (Health), SCF (US)
5. Dr. Zahid Jamal Khattak, Health Co-ordinator, Punjab
6. Col. Dr. Altaf-ur-Rehman, Consultant, CCAR, Islamabad
7. Dr. Tila Muhammad, Medical Co-ordinator, IRC
8. Mr. Javed Iqbal Malik, Deputy Prog. Co-ordinator, HNI/PDH, Quetta
9. Dr. Syed Jaffar Hussain, Deputy Director, HIS/PHC, PDH, Peshawar
10. Dr. Salim Akbar, PDH, Baluchistan, Quetta
11. Dr. Iftikhar Ali, Co-ordinator, FPHC
12. Ms. Anna M. Pont, Project Manager, MCI, Quetta
13. Ms. Suriya Kasi, Associate Programme Officer, UNHCR Quetta
14. Dr. Naveeda Rehman, Prog. Officer (Health), UNHCR BOI
15. Mr. Naeem Durrani, Field/Prog. Officer, UNHCR BOI
16. Dr. Gul Habib, Senior Medical Officer, Lajnat-al-Dawa
17. Dr. Dad Muhammad Shinwary, FSMO, KJRC
18. Mr. Azimullah, Lab Technician, AMWA
19. Dr. Fayaz Ahmad, Program Co-ordinator, HNI
20. Dr. Basir, Project Officer, HNI
21. Mr. Dost Muhammad, Assistant Programme Officer, UNHCR Peshawar

Annex 3

MONITORING SCHEDULE FOR SPRAY CAMPAIGN 2000

A) AT MACRO LEVEL

District	Number of camps to be sprayed	July 17-22	July 24-29	July 31-Aug 5	Aug 7-12	Aug15-19	Aug 21-26	Aug 28-Sep 2
SW Agency	2	PDH MI	PDH Office	UNHCR FO	HNI	FSMO	UNHCR FO	PDH MI
DI Khan	1	UNHCR FO	FSMO	PDH MI	PDH Office	UNHCR FO	FSMO	HNI
NW Agency	2	HNI	PDH MI	FSMO	UNHCR FO	PDH Office	PDH MI	FSMO
Peshawar	3	FSMO	UNHCR FO	HNI	PDH MI	UAAR MI	UAAR Office	UNHCR FO
Kurram	6	PDH MI	PDH MI	UNHCR FO	FSMO	HNI	PDH Office	PDH MI
Mardan	1	KJRC MI	FSMO	PDH MI	UNHCR FO	KJRC MI	PDH MI	HNI
Hangu	8	HNI	UNHCR FO	PDH MI	IRC Office	HNI	PDH MI	PDH Office
Bajawar	1	PDH MI	HNI	UNHCR FO	FSMO	PDH MI	UNHCR FO	FSMO
Mianwali	1	PDH Office	UNHCR FO	PDH Office	UNHCR FO	PDH Office	HNI	PDH Office

B) AT MICRO LEVEL

Medical Officers, EPI Supervisors and other related staff from the concerned implementing agencies will actively monitor the compaign. The Medical Officers should visit the spraying squads minimally thrice a week. It is recommended that their monitoring visit schedule should cover Mondays and Saturdays.

Their reports will regularly be handed over to central monitoring bodies (HNI-PDH-UNHCR) for further processing.

ANNEX 3

CHECK LIST FOR SPRAY MONITORING

District: ______________________________ **Camp:** _________________________________

Organization: _______________________ **Date:** / /2000

Team supervisor name: ______________ **Insecticide being sprayed:** ________________

Monitor's name: ____________________ **Agency:** ____________________________

(A) STOCK SITUATION:

1- Insecticide received this morning from the store ____________ sachets.

2- Insecticide used till now ______________ sachets.

3- Is the count of used / unused packets comparable? Y __________ N ____________

4- Write the Batch Number of one sachet ________________________

(B) SPRAY QUALITY:

1- Pump Position

- **Is the pressure gauge present? Y ____________ N _____________**

  If yes, is it functioning? Y _________________ N _____________
- **Is the relief valve working? Y _______________ N ______________**
- **Is the filter clean, not broken & in good condition? Y ____________ N _____________**
- **Is there any leakage from any joint / part? Y ____________ N _____________**

2- Spray Technique

- **Is the pressure appropriate? Y _____________ N ____________**

  (The pressure should be maintained between 35 - 55 psi)
- **If the pressure gauge is not working, count the number of strokes ________**

  (Should be approximately 50-55 strokes to maintain adequate pressure)
- **Is the pump shaked properly? Y ____ N ____**

  (The pump should be agitated on alternate corners of the room while spraying)
- **Is the spraying velocity appropriate? Y _______ N _______**

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(It should take 7 seconds t spray a wall from top to bottom)

- **Is the width of spray swath appropriate? Y _______ N _______**

  (If the technique applied is correct, the width of the resulting spray swath will be approximately 75 cm)

- **Is the distance between the surface & nozzle appropriate? Y _____ N ______**

  (The distance should be equal to 45 cm)

(C) SPRAYMAN PROTECTION:

- **Is sprayman wearing protective clothing? Y _____ N ______**
- **Is sprayman wearing gloves? Y ______ N ______**
- **Is sprayman using mask? Y _________ N _________**
- **No of pumps sprayed / sprayman on previous working day ____________**

  (A sprayman is supposed to spray 14 - 17 pumps on the average daily)

- **Have spraymen received soaps? Y _______ N _________**

(D) COMMUNITY'S RESPONSE:

- **Did the family members help prepare the rooms for spray? Y ______ N _______**
- **Were the children kept away from the spray activities? Y ______ N _______**
- **Was adequate water supplied by the community to prepare working dilution of insecticide? Y ________ N ________**
- **Was any adult male available at home to help spray team? Y ________ N _______**
- **Is the owner of house being sprayed satisfied with the campaign? Y _______ N ______**
- **What are his comments / reservations? ____**

  ____

(E) REMARKS:

____

____

Programme for the one-day training worksop on Disease Early Warning System (DEWS) for Malaria and Cutaneous Leishmaniasis among the Afghan refugee camps

Venue: HealthNet International, 11-A Circular Lane, University Town, Peshawar
Tel. (091) 844474; 42551, Fax (091) 840379

Date: Saturday, 27 May 2000

TIME	ACTIVITY	RESPONSIBLE
0800 hrs	Start proceedings; introduction of participants and facilitators	Dr. M. Abdur Rab
08300 hrs	Objectives of the workshop; introduction of Disease Early Warning System (DEWS)	Dr. Athar S Dil
0930	Malaria Clinical features and prevention	Film
1000 hrs	Tea break	
1030 hrs	Cutaneous Leishmaniasis, clinical features and control	Dr. M. Abdur Rab
1115 hrs	Epidemic detection, importance of case definitions	Dr. Athar S Dil
1200 hrs	Epidemic detection continued; calculation of epidemic index	Dr. Athar S Dil
1315 hrs	Lunch and prayer break	
1415	Role of health education in epidemics	Dr. Zafar A. Toor
1500 hrs	Epidemic preparedness; disease plotting on weekly watch charts	Dr. Athar S Dil
1600 hrs	Tea and close	

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List of the participants invited to attend One-Day Workshop on Early Warning System for Malaria and Cutaneous Leishmaniasis

Date: 27/05/2000

Venue: HNI office, 11-A Circular Lane, University Town Peshawar

S. No	Name	Designation	Organization
1.	Dr. Syed Jaffar Hussain	DD HIS/MLCP	PDH
2.	Dr. Abdul Hamid	Deputy Director	Provincial MCP NWFP
3.	Dr. Syed Kazim Hussain	FSMO Kurram	PDH
4.	Dr Muhammad Iqbal	FSMO Kohat/Peshawar	PDH
5.	Dr Javed Afridi	FSMO NW Agency	PDH
6.	Dr Saifullah Khan	FSMO Dir/Bajawar	PDH
7.	Dr Sarfaraz Khan	FSMO SW Agency	PDH (Punjab)
8.	Dr Zahid Jamal Khattak	Health Coordinator	PDH (Baluchistan)
9.	Dr Shaheen Iqbal	Deputy Director	PDH
10.	Dr Siddqullah	MO BHU Match Factory	CWS
11.	Mr. Denis Joseph	Program Administrator	IRC
12.	Dr Tila Muhammad	Medical Coordinator	KJRC
13.	Dr Dad Muhammad Khan	FSMO	KJRC
14.	Dr Al Umera	MO BHU Akora	AMDA
15.	Dr DP Bandari	Medical Specialist	IMC
16.	Dr. Zalaikha Anwari	Mobile Team Coordinator	SC-US
17.	Dr Zahir	PHC Manager	FPHC
18.	Dr Emel Khan	Director	Peshawar Kai
19.	Dr Akira Kobayashi	Vice Director	UAAR
20.	Dr Muntazir	FSMO	PDH (Punjab)
21.	Dr Rafaqat Hussain	MO BHU Kotchandna	HNI Kandahar
22.	Mr. Musafar Khan	Surveillance Officer	HNI Jalalabad
23.	Mr. Ahmadullah	Senior Microscopist	Govt. of Pakistan
24.	Dr Sartaj Khan	MO BHU Baizo Kharkai	

Copy for information:

- Dr Naveeda Bano, Program Officer (Health), UNHCR BOI
- Mr Dost Muhammad Yusafzai, Assistant Program Officer (Health), UNHCR SOP

Annex 6

Report on outbreak Nov/Dec 2000

It was in the second week of Nov when some one call me from UNHCR sub office introducing himself programs officer of Bajuar Agency. He was complaining of an unusual rise in the number of Malaria case in the area. After hearing this I planned to visit Bajuar to examine the localities from a close angle. I met the FSMO Medical officers, and community health supervisors and of course the community people who were the real victims. They confirm the high incidence of malaria cases after thoroughly examining the monthly reports of Oct it was found that both Vivax and Falciparum are significantly higher in four camps namely, Kerala, Yousaf Abad and Damadola. In the fourth camp (Nawab Abad) where residual spray with Deltamethrin was carried out this year, the situation is under control. Majority of the cases reported from Nawab Abad camp is outsider (local people).

The local BHU staff was doing a commendable job. All slides were taken to FSMO office for examination where a laboratory has been setup for this purpose. Due to overload of the work it was suggested to PDH that an extra Microscopist should be placed to diminish the burden. Result was available to BHUs within 24 hours. Falciparum cases were provided supervised treatment.

It may be pointed out that in the majority of the ARCs in NWFP, as whole malaria situation seems to be lower as compared to the last year. In view of this, the retraction of tendency in the Bajuar area was expressive of an outbreak of disease in this area.

Possible reasons for this increase

- All these villages are situated on the bank of seasonal river where one can observe a lot of ponds.
- Bed nets sale is very slim (Damadola and Kerala where bed nets were put on sale)
- According to the people mosquito density is very high particularly in Damadola camp.
- All these villages are very close to rice cultivated farms, which are appropriate places for mosquito breeding.

After coming to the office a meeting was held with Dr Abdur Rab technical advisor, he was briefed about the situation and based on the above finding it was decided that the following measure need to be immediately taken.

Ann. 6/2

Recommendations:

- Entomology survey of the area to find vector density and species composition.
- One round of cattle sponging to bring the vector density down.
- Impregnation of chadors, bed nets and curtain to all households in the three above-mentioned camps.

1. Entomology survey of the area to find vector density and transmission potential

A two member team of entomologist were instructed to observe the area and flit these three camps to see the vector density and species composition before starting Chadar impregnation and cattle sponging. For flitting 8 sleeping rooms and 8 animal rooms were randomly selected for mosquitoes catching after coming to the laboratory the number anopheles were counted and the species were identified as given in table 1.

Table 1

CAMP	Room	An-Stephens	An-culicifacies	An-other	An-total	Culicin
DAMDOLA	Animal room	34	251	26	311	6
DAMDOLA	Sleeping room	2	6	1	9	16
KERALA	Animal room	18	18	0	36	6
KERALA	Sleeping room	2	5	0	7	9
YOUSAF ABAD	Animal room	21	11	5	37	5
YOUSAF ABAD	Sleeping room	0	2	0	2	0

As clear from the above table nearly all the mosquitoes were collected from animal rooms, it shows the zoophilic nature of the mosquitoes and their attraction towards cattle may be due to:

A: Animal rooms provide best resting site for mosquitoes because there is little Disturbance for them.
B: Cattle rooms have more darkness than sleeping rooms.
C: Animal rooms are warmer.
D: Has some smell for mosquito's attraction.
E: Usually walls of animal rooms are rough and more crevices like by mosquitoes.

Ann. 6/3

Chadors impregnation:

Keeping the above situation in mind an immediate control measure was carried out to impregnate the Bed nets, chadors, bed sheets and curtains. Participation from the community was admirable. A total of 6 teams were constituted for chador impregnation closely supervised by Entomologist from 21/11/00 to 27/11/00 in all three camps. Chadors were categorized as small (2m.sq), medium 4m.sq and large (5m.sq). Deltamethrin SC 50 with target dose of 0.5 ml/m.sq impregnated all these chadors.

A total of 12216 chaddors were impregnated in all the three camps categorized into 2807 small, 3852 medium and 5557 large. Apart from this 574 bed nets were also impregnated. In this 34 liters of insecticides were consumed.

Cattle sponging:

Two team of cattle sponging to sponge all livestock's with the same insecticides available in the refugee camps also supplemented these chadars impregnation activities. The details can be seen in table 2.

Table 2

Cows		Buffalo		sheep		Goats	
Total	Sponged	Total	Sponged	Total	Sponged	Total	Sponged
3930	3885	18	18	279	279	3330	3320

A total of 17.5 **Liters Deltamethrin SC 50** was consumed for cattle sponging.

On the completion of cattle sponging and Chadar impregnation second round of flitting was immediately conducted in the same houses in all three camps, the same method was used only one Anopheles and 6 culicine were collected in House No. 8, while no mosquito was detected in the remaining three camps. The details are given below in table 3.

Table 3

CAMP	Room	An-Stephens	An- Culicifacies	An-other	An-total	Culici
DAMDOLA	Animal room	0	0	0	0	0
DAMDOLA	Sleeping room	0	0	0	0	0
KERALA	Animal room	0	1	0	1	4
KERALA	Sleeping room	0	0	0	0	2
YOUSAF ABAD	Animal room	0	0	0	0	0
YOUSAF ABAD	Sleeping room	0	0	0	0	0

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Besides these activities sessions for health education were also arranged in the BHU and community. The community members were asked to follow the tips mentioned below.

1-The people were advised to dry their impregnated chadors under the shad.
2-They were instructed not to wash their chadors at least for 4 months.
3-The community was requested to use their impregnated chadors as much as Possible during winter.
4-They were advised to keep away their impregnated chadors from sum and rain.

Dr Iftikhar Ali
Program Coordinator
MLCP
HNI
Peshawar.

Distribution list:

1. Denis De Poerck, Director MLCP, HNI Peshawar.
2. Dr Abdur Rab Technical Advisor HNI.
3. Project Director Health A/R NWFP Peshawar.
4. Dr Naveeda Rehman P.O (Health) UNHCR Islamabad.
5. Dost Mohammad Yousafzai APO UNHCR Peshawar.
6. Dr Mohammad Iqbal Deputy Director Malaria Control Program A/R
7. FSMO Bajuar Agency.

Annex 6 bis

HEALTHNET
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EPIDEMIOLOGICAL BASIS OF MALARIA CONTROL

Course Objective

- To understand the basic concepts of disease (malaria) with respect to person place and time.
- Understand the concepts of disease risk measures.
    - : Measures of central tendency, mean, median and mode.
    - : Proportions, Percentages, and Rates.
    - : Prevalence vs. Incidence measures.
    - : Attributable risk.
- To understand data analysis and presentation in malaria.
- To be aware of the international efforts of malaria control as advocated in the Roll Back Malaria program of WHO.
- To have an overview of malaria among the Afghan refugees.
- To update knowledge on the current situation of drug resistance in malaria.
- To acquire knowledge and understand the application of vector control in malaria
- To understand the influence of social practices and health education in malaria

To learn about control of malaria outbreaks (epidemic control).
To understand the role of operational research in malaria.

Course Format:
Lectures, group discussions, individual and simulated exercises and visual presentations.

Duration and Time:
3 days in January 2001 (22-24 Jan).

Venue:
Continental Guesthouse opposite ACBAR office University Town Peshawar.

Course Participants:
15 from UNHCR / PDH / NGOs and 5 from HNI.

Tentative Schedule of the Course

Day one:	09.00 hrs	Introduction of participants and discussion On participants perception and aspirations from the course
	10 00 hrs	Lecture: Epidemiology of malaria in relation to persons, place and time.
	11 00 hrs	Break; for tea.
	11 15 hrs	Lecture: Risk measurement in malaria. *AR*
	13 00 hrs	Break; for lunch and prayers.
	14.00 hrs	Class exercise on risk measurement in malaria. *AR*
	15 00 hrs	Break; for tea and prayers.
	15 30 hrs	Presentation: Global Roll Back Malaria Program: Objectives and expectations towards global malaria control. *ND*
	16 30 hrs	Group discussion.
	17 00 hrs	Close for the day.

11 - A Circular Lane, P.O. Box 889, University Town, Peshawar, Pakistan
Tel : (92) 91 - 844474 & 42551 Fax : (92) 91 - 840379
E-mail: hnipesh@pes.comsats.net.pk

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Day two:	09 00 hrs	Lecture: Preliminary data analysis and presentation of data in public health. *AR*
	10 00 hrs	Group exercise on data analysis and presentation.
	11 00 hrs	Break; for tea.
	11 15 hrs	Presentation: Malaria among the Afghan refugees. *IA*
	12 00 hrs	Presentation: Current status of resistance to drugs in Falciparum malaria. *MR*
	13 00 hrs	Break; for lunch and prayers.
	14 00 hrs	Lecture: Vector Control in malaria. *ND*
	15 00 hrs	Break; for tea and prayers.
	16 00 hrs	Presentation: vector control in malaria: continued.
	17 00 hrs	Group discussion on vector control. *HR*
	18 00 hrs	Close for the second day.
Day three:	09 00 hrs	Lecture: Social aspects of malaria control and the Roll of health education in communities. *KR*
	10 00 hrs	Presentation: Community taking charge of controlling malaria: Community based malaria programs. *TF*
	11 00 hrs	Break; for tea.
	11 15 hrs	Lecture: Investigation and control of epidemics in malaria. *AR*
	12 15 hrs	Group exercise in epidemic investigation in malaria.
	13 00 hrs	Break; for lunch and prayers.
	14 00 hrs	Lecture: Operational research in malaria . *MR*
	15 00 hrs	Closure of the course and presentation of the participation / attendance certificates.

AR, Abdur Rub   ND, Naeem Durrani   MR, Mark Rowland   KR, Kellie Ryan

TM, Timothy Freeman,   IA, Iftikhar Ali   HR, Hameed –ur Rehman

Ann. 6 bis/3

THREE DAY WORKSHOP ON EPIDEMIOLOGICAL BASIS OF MALARIA CONTROL

Date: 22/01/2001

S.NO	Name	Designation	Organization	Signature
1	Dr. Muntazir	Project Manag-	MAAR	
2	Dr Emel Khan	Director	FPIII	
3	Dr. Fazal Elahi "Rahmani"	Prog. D. Coordin.	HNI	
4	Dr-A NASEER	D-Director	HMRB	
5	Dr-A.M. Saadat	Supervisior ACD	ACD	
6	Dr Gul Habib	Senior M.O	L.D.I	
7	Dr Mohammed Iqbal.	DD MCP/EPI	PDH -	
8	Dr. Zelaikha Anwari	Training coord-nator	IMC	Anwar
9	Dr. Majroom	M.O	IRC	
10	Dr Amanullah	Mo	CWS Mansehra	
11	Dr. M. Asif "Habib Zai"	M/O	P.D.H - Kurram.	
12	Dr. Ghulamjan. Waziri	FSMO	PDH. SWA Wana	
13	Dr M. Sarwar.	M/O	AMWIA	
14	Dr. Sayed Rahim	D. Coordinator	H-NI/MCP	
15	Dr Zabihullah	Field supervisor	ACD	
16	Dr Dad Muhammad	FSMO	KJRC	
17	Dr. Javed Afridi	FSMO - A/R	PDH	
18	Dr. Saifullah	FSMO-A/R	PDH Timer	Saifullah
19	Dr-Abdul Wakeel	M.O	PDH / DIR	
20	Dr. Faiz Mohd	D. Program. Coord. MCP - Malar	HNI/MCP	
21	Dr. Sarfaraz	F.S.M.O P.D.H.	PDH.	
22	Dr-Dina Kukur	M.O	SC/US.	Kukur
23	DR. HAFEEZ KHALID.	M.O.	HQFC.	
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X

Annex 7

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SCHEDULE FOR TWO DAY TRAINING WORKSHOP IN DIAGNOSIS AND MANAGEMENT OF CUTANEOUS LEISHMANIASIS

Day One	***Dated 9th March 2000***		
Session	Activity	Conducted by	Time
Session One	Recitation	Dr Fayaz Ahmad	9:00 to 9:45
	Inauguration		
	Ground Rules		
	Introduction of the participants		
	Objectives of the training	Dr M. A. Rab	9:45 to 10:00
	Introduction to epidemiology	Dr M. A. Rab	10:00 to 10: 30
	Tea Break		*10:30 to 11:00*
Session Two	Leishmaniases in Pakistan	Dr M. A. Rab	11:00 to 11:15
	A review of cutaneous leishmaniasis	Dr M. A. Rab	11:15 to 11:25
	Cinical features	Dr M. A. Rab	11:25 to 11:45
	Diagnosis	Dr M. A. Rab	11:45 to 11:55
	Management	Dr M. A. Rab	11:55 to 12:05
	Vectors and Reservoirs of CL	Dr M. A. Rab	12:05 to 12:15
	Control;	Dr M. A. Rab	12:15 to 12:30
	Classification of methods available for treatment	Dr Fayaz Ahmad	12:30 to 1:00
	Lunch and prayer's Break		*1:00 to 2.00*
Session Three	Treatment with Pentavalent Antimonials • Basic	Dr Basir	2:00 to 3:45

Ann. 7/1

	Pharmacology • Routes of administration • Indications for IM/IL regimens • Dosage • Technique,		
	Record Keeping, reporting and registration	Dr Fayaz Ahmad	3:45 to 4:30
Day Two	*Dated: 10th March 2000*		
Session one	Field trip to BHU New Nasir Bagh		9:00 to 12:00
Lunch and Prayers break			*12:00 to 2:00*
Session Two	Practical demonstration sessions at Entomology and Microscopy sections HNI office	Mushtaq Farhan Nasim Khan	2:00 to 3;30
Session three	Feedback, wrap session	Mr. Dost Muhammad	3:30 to 4:00

Annex 8

HEALTHNET
INTERNATIONAL

Dated: 9th March, 2000.

S. No	Name	Designation	Organization	Signature
1.	Dr Aqila	FMo.	AMDA	Aqila
2	Dr. Al umera	FMO	KJRC	Al. umera
3	Dr. Roeena Mahmood	Mobil. Team Dr.	IMC	Roeen
4	Nurse Gundi	Mobile team	I.M.C	
5.	Dr. Zelaikha Anwari	Mobile team Coordinator	I.M.C	Anwari
6.	Nurse Ziba	New Shamshatu mobile team	IMC	
7	Dr Rahmanshah	M. O.	S.C.F Haripur	
8	Mr Roohullah	Dispenser	KJRC	
9	Gul Rehman	C.H.S	S.C.F [illegible]	
10	Dr Sibghatullah Khan	M.O	KJRC	DrSibghat
11	Dr Shamsulhadi	MO	KJRC	
12	Alif Gul	Dispenser.	AMDA	
13	Dr A. Qudus Sadat	M.O	KJRC	Sadat
14	" Ali Khan Disp.	Dispenser	KJRC	
15	Kausar Rahman	Dispenser	KJRC	

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HEALTHNET
INTERNATIONAL

Dated. 10 - 3 - 2K

S. No	Name	Designation	Organization	Signature
1	Dr. Agila	/MO	AMDA	Agila
	Dr. Al ameen	FMO	KJRC	Al umeen
3	Dr. Raeena Mohammad	Mobile doctor	IMC	D. Raeena
4	Nasir [illegible]	Mobil team	IMC	
5	Dr. Zulaikha Anwar	Mobile team Coordinator	IMC	
6	Zia	Mobil Nurse	IMC	
7	Mr Roohullah	Dispenser	KJRC	
8	Kausar Rahman	Dispenser	KJRC	
9	MR Ali Khan	Dispenser	KJRC	
10	Dr A Qudus Sadal	MO	KJRC	
11	Mr Alif Gul	Dispenser	AMDA	
12	Dr Shamsulhadi	MO	KJRC	
13	Dr Sibghatullah Khan	MO	KJRC	
14	Dr. Rahmanshah	M.O.	SCF Hangu	
15	Mr Gul Rahman	CHS	SCF "	

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Annex 9

INTERNATIONAL MEDICAL CORPS

Ref No: **IMC/ PAK/ Tech/ HTL/ 01-0015**

Dated: 26th June, 2000

Dr.Fayaz Ahmad
MLCP Coordinator,
HNI, Peshawar , Pakistan.

Subject: **LEISHMANIASIS WORKSHOP**

Dear Colleague,

As per our need assessment regarding the requirements of training for Shamshatoo Mobile team and Kachagari BHU personnel, it was found that a workshop should be held on Leishmaniasis for personnel working at both sites. Attached please find a copy of the workshop objectives and topics covered .

It is worth mentioning that the Leishmaniasis workshop was conducted on 22nd June.2000 at IMC office. Ten IMC staff participated in the workshop.

All participants found the training useful and took active part. We hope the workshop proves to be useful while treating the patients on Leishmaniasis. We will start the treatment as soon as we have access to the required medicine for it.

Taking this opportunity, I would like to thank you for your cooperation with us in preparing curriculum for the said training.

We appreciate and look forward for your future contributions and assistance with us.

Sincerely Yours,

Dr. Zelaikha Anwari.
IMC Training Coordinator

House # 9, Street # 1A, Sector N-4, Phase IV, Hayatabad, P.O.Box 562, G.P.O Peshawar Tel: 824988 Fax:574364 E.mail:- imc@pes.comsats
11500 West Olympic Blvd; Suite 506, Los Angeles, CA 90064-1524 USA. Tel: (310) 826-7800, Fax: (310) 442-6622

Anne 9/2

IMC

Schedule for training workshop in Leishmaniasis

22 nd June 2000

Sessions	Activity	Presented by	Time
Session One	What is leishmaniasis Life cycle of leishmaniasis Type of clinical syndrome Pathogenesis	Dr. Zelaikha Anwari	8:30 - 10:00
	Tea Break		10: 00 – 10:20
Session Two	Diagnosis & Complications Treatment	Dr. Roeena Dr. Zelaikha Anwari	10: 20 - 11:05 11: 05 - 11:50
	Break		11:50 - 12:00
Session Three	Prevention Registration system for L.	Dr. Zelaikha Anwari	12:00 – 1:00
	Lunch & Prayer's Break		1:00 – 2:00
Session Four	Short information about Early Warning System	Dr. Zelaikha Anwari	2:00 – 3:30

Ann. 10/1

PLAN FOR DISTRIBUTION OF SECTICIDES AND OTHER ITEMS AMONG Vs FOR THE YEAR 2000 (NWFP, PUNJAB)

Annex 10

North West Frontier Province

S. No.	District	VILLAGE	Agency	Population	Intervention proposed for 2000	Pumps to be distributed	Protective Clothing kits to be distributed	Icon needed (Kg)	Icon needed (Drums of 9.25 Kg each)	Deltamethrin WP 50 needed (Kg)	Deltamethrin WP 50 needed (Cartons of 6 kg each)	Deltamethrin EC 15 needed (Liters)
1	Peshawar	AZAKHEL 1	UAAR	12654	RS - ITN	* 10	6			158	26	
2	Peshawar	AZAKHEL 2	UAAR	12362	RS - ITN	* 5	3			155	26	
		Sub total				*15*	9			*313*	52	
3	SW Agency	AZAM WARZAK	PDH (FSMC SWA)	10704	RS - Tent	10	6			134	22	125
4	SW Agency	WATCHA KORA	PDH (FSMC SWA)	7111	RS	5	3			39	15	
5	D.I. Khan	PUSHA PUL	PDH (FSMC SWA)	5310	RS	5	3			79	13	
		Sub total				20	12	0	0	302	50	125
6	Peshawar	BADABER (PDH)	PDH (FSMC Peshawar)	20000	RS	* 10	6	156	17			
		Sub total				10	6	156	17			
7	Miranshah	DARGAMANDI	PDH (FSMC NWA)	14200	Focal Spray (50%)	5	3			90	15	
8	Miranshah	DARPAKHEL	PDH (FSMC NWA)	13000	Focal Spray (50%)	5	3			80	13	
		Sub total				10	6	0	0	170	28	0
9	Kurram	SATIN	PDH (FSMC Kurram)	12000	RS	5	3			150	25	
10	Kurram	BUSHERA	PDH (FSMC Kurram)	13000	RS	5	3			163	27	
11	Kurram	SHASHU	PDH (FSMC Kurram)	16000	RS	5	3			200	33	
12	Kurram	M. KOT	PDH (FSMC Kurram)	10000	RS	5	3	78	3			
13	Kurram	CHAPRI	PDH (FSMC Kurram)	10000	RS	5	3	78	3			
14	Kurram	BAGZAI 1	PDH (FSMC Kurram)	16000	RS	10	6	125	14			
		Sub total				35	21	281	30	513	35	0
15	Mardan	JALALA (Perkhu camp)	KJRC	2500	Focal Spray	5	3	20	2			
		Sub total				5	3	20	2			
16	Hangu	NARYAB	IRC	5543	RS - ITN	* 5	3	43	5			
17	Hangu	DARSAMAND	IRC	17797	RS	* 10	3	139	15			
18	Hangu	L. BANDA	IRC	12943	RS	* 10	6			162	27	
19	Hangu	M. KHOJA	IRC	12791	RS	10	3	100	11			
20	Hangu	KAHI	IRC	11061	RS	10	3	86	9			
21	Hangu	DOABA	IRC	13584	RS	10	3	106	11			
22	Hangu	DALAN	IRC	10990	RS - ITN	10	3			137	23	
23	Hangu	THALL 2	IRC	17130	RS	10	3			214	36	
		Sub total				75	55	475	51	513	86	0
24	Bajawar	NAWABABAD	PDH (FSMC Bajawar)	9203	RS	* 5	3			115	19	
		Sub total				5	3			115	19	
		GRAND TOTAL				*175*	*115*	*932*	*101*	*1925*	*321*	*125*

Ann. 10/2

Punjab

S. No.	District	VILLAGE	Agency	Population	Intervention proposed for 2000	Pumps to be distributed	Protective Clothing kits to be distributed	Icon needed (Kg)	Icon needed (Drums of 9.25 Kg each))	Deltamethrin WP 50 needed (Kg)	Deltamethrin WP 50 needed (Cartons of 6 kg each)	Deltamethrin EC 15 needed (Liters)
1	Mianwali	Kotchandna	PDH	33590	RS	10	15	262	28			

BALUCHISTAN

S. No.	District	VILLAGE	Population	AVI	AFI	CLI	1999 intervention	Intervention proposed for 2000	Bednets Needed (Number)	Icon needed (Kg)	Icon needed (Drums of 9.25 Kg each))	Deltamethrin WP 50 needed (Kg)	Deltamethrin WP 50 needed (Cartons of 6 kg each)	Deltamethrin SC 50 needed (8ml Bottles)	Deltamethrin SC 50 needed (Liters)	Deltamethrin EC 15 needed (Liters)
1	Chaghi	Chaghi	10778	30.71	2.04		Icon	RS (50%)				68	11			
2	Chaghi	Gndi Jungle	21786	20.70	1.97		Delta WP	RS (50%)				136	23			
3	Quetta	M.Khel	8757	27.18	10.51		Icon	RS (50%)				65	9			
4	Loralai	Katwai	11530	23.50	10.41		Icon	RS				144	24			
5	Loralai	Zarkarez 1, 3	9810	26.30	8.05		Icon	RS				133	20			
6	Zhob	Malgagai 1, 4	7342	31.05	10.76		Icon	Larviciding								
		Sub total	***70003***									***526***	***88***			

List of Abbreviations:

RS = Residual Spray

M = Malathion

ITN = Insecticide Treated Nets

CS = Cattle Sponging

I = Icon

D = Deltamethrin

P = Permethrin

(1) = Areas to be sprayed in Dargamandi camp include a) Nawab, b) Nari Dag, c) Tabi Mughal

(2) = Areas to be sprayed in Darpakhel camp include a)M. Khel Degan, b)Chishma Zarmanky, c)Amboor Shega, d)Degan Maman Kot, e)Sesar Khwar, f)Khar Kamar and g)M. Kail Kitkai

AVI = Annual Vivax Incidence

AFI = Annual Falciparum Incidence

CLI = Cutaneous Leishmaniasis Incidence

* = Bednets delivered in 1999. Implementation will continue during 2000

Annex 11 a

Implementing Partners,
Afghan Refugees Health Program,
NWFP.

Dated: 26/06/2000

Subject: **Spraymen Trainer's Training.**

Dear Colleagues,

HealthNet International is planning to organize a one-day workshop on operational aspects of the forthcoming residual insecticide spray campaign. The workshop is aimed to train Malaria Inspectors from all the respective districts who in turn will train spraymen in the refugee camps listed in spray plan for the year 2000.

You are hereby requested to send the concerned Malaria Inspectors or any other person who is expected to be playing a role in training spraymen or implementation of the activity.

The workshop will be held at HNI Office 11-A Circular Lane University Town Peshawar at 8:30 AM, July 5th, 2000.

Please do not hesitate to ask for any other information you may need in this regards. I shall esteem if you contact me for any queries/comments on the above arrangements.

Thank you for usual cooperation and very best regards.

Sincerely Yours

Dr Fayaz Ahmad
MLCP Coordinator, HNI Peshawar.

Ann. 11A/2

CC:

- Dr Javed Pervaiz, Project Director Health (A/R), NWFP.
- Dr Syed Jaffar Hussain, DD HIS/MLCP/PHC, PDH.
- Dr A. H. Muntazir, Project Manager UAAR.
- Dr Dad Muhammad Khan, FSMO Kuwait Joint Relief Committee
- Dr Tila Muhammad, Medical Coordinator, IRC Hangu.
- Dr Naveeda Bano, UNHCR BOI for information.
- Mr. Dost Muhammad Yusafzai, UNHCR SOP for information.

Ann 11 - B

Health Coordinator,
Afghan Refugees Health Program,
Punjab.

Dated: 26/06/2000

Subject: **Spraymen Trainer's Training.**

Dear Sir,

HealthNet International is planning to organize a one-day workshop on operational aspects of the forthcoming residual insecticide spray campaign. The workshop is aimed to train Malaria Inspectors from your organization who in turn will train spraymen in the refugee camp for the year 2000 campaign.

HNI's team will be visiting Kotchandna Refugee Village to conduct a on-day training workshop for the concerned staff on 7th of July at 9:00 AM.

Please do not hesitate to ask for any other information you may need in this regard. I shall esteem if you contact me for any queries/comments on the above arrangements.

Thank you for usual cooperation and very best regards.

Sincerely Yours

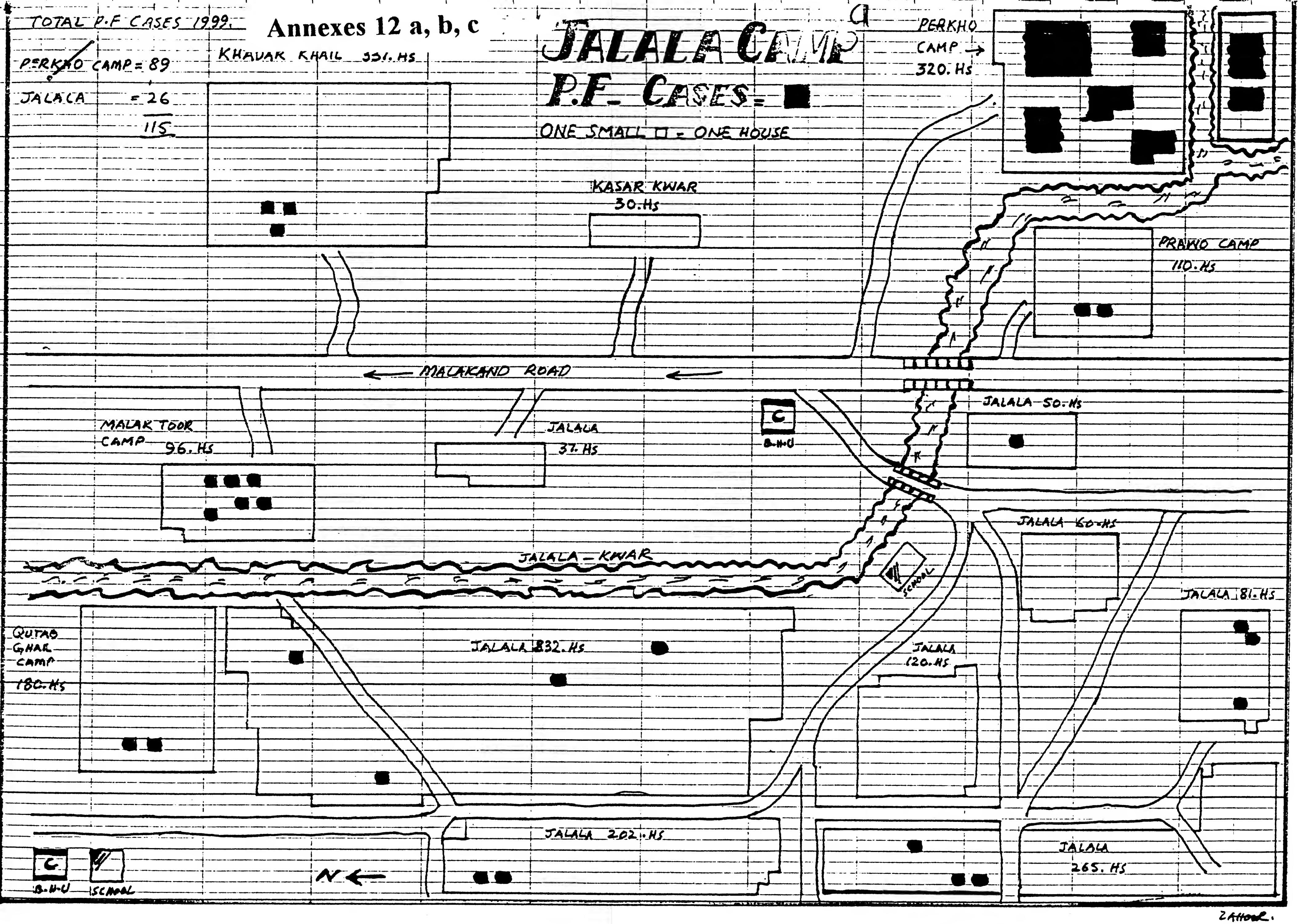
Dr Fayaz Ahmad
MLCP Coordinator, HNI Peshawar.

CC:

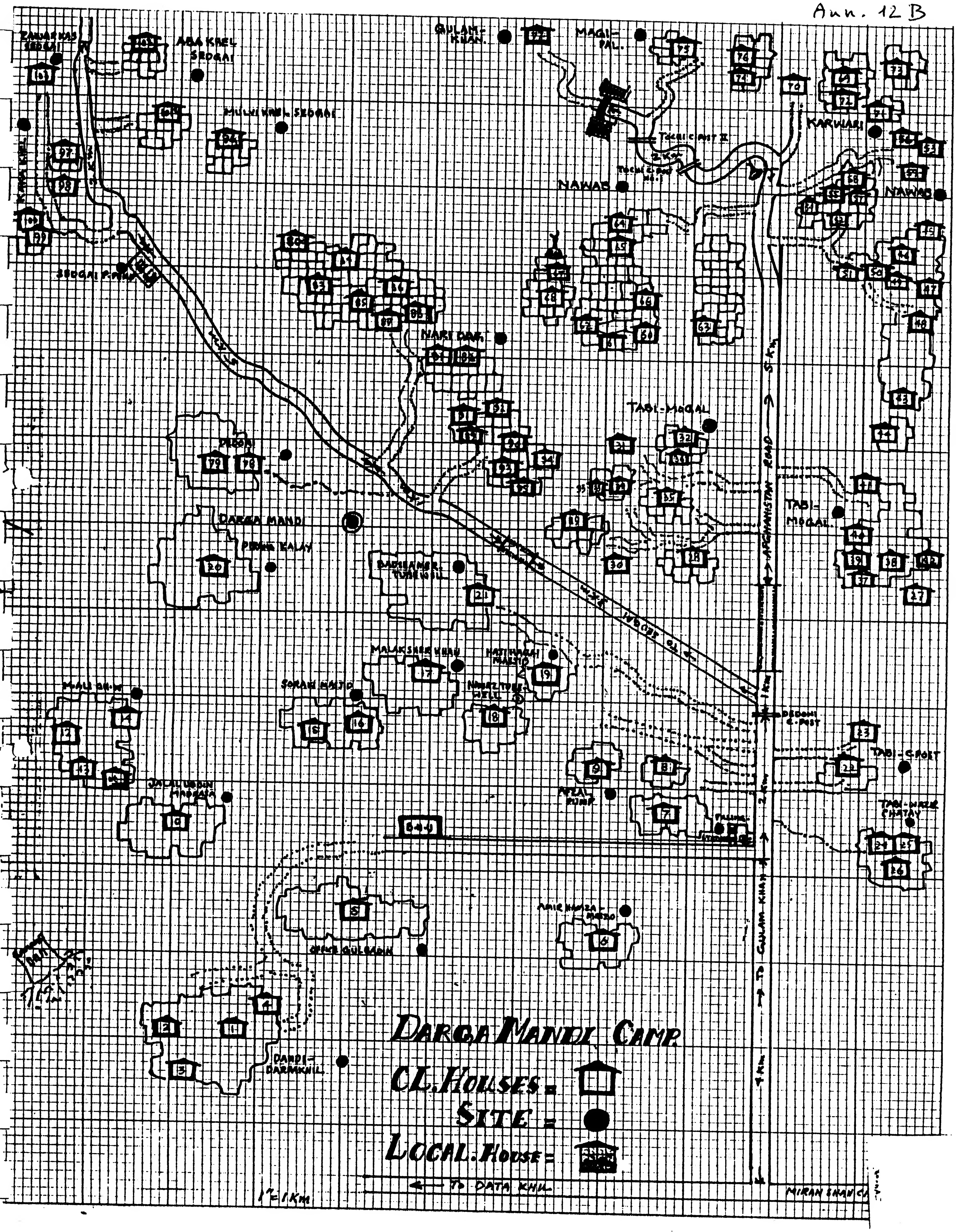
- Dr Naveeda Bano, UNHCR BOI.
- Mr. Naeem Durrani, UNHCR BOI.

Annexes 12 a, b, c

Ann. 12 A



Ann. 12 B


ZAWAR KAS SEDGAI
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MULVI KHEL SEDGAI
GULAM-KHAN.
MAGI-PAL.
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SEDGAI P.PUMP
NARI DAF.
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TABI-MOGAL.
DEDONI
DARGA MANDI
PIRAN KALAY
BADSHAH SHER TUBEWELL
TO SEDGAI
AFGHANISTAN ROAD
5 KM
MALAK SHER KHAN
HAJI HAGAI MASJID
NAWAZ TUBE WELL
SORAKI MASJID
MALI OH-W
JALALUDDIN MADRASA
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TABI-C.POST
TABI-WAZIR CHATAY
AFZAL PUMP
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CHE GULBADIN
DANDI-DARMKHIL
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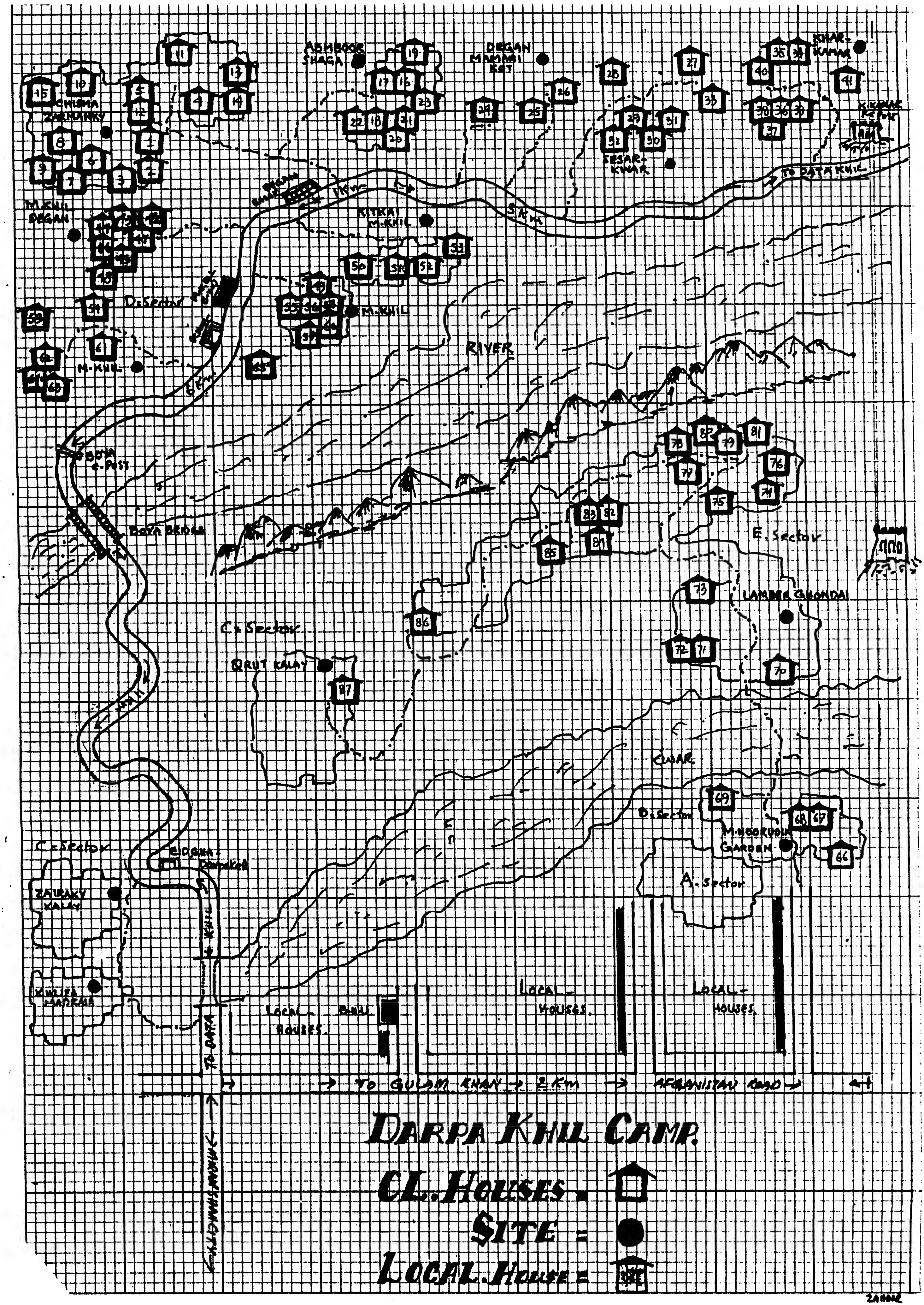
Ann. 12C



ZAHOOR

Annexes 13 a

HN
HEALTHNET
INTERNATIONAL

Dr Tila Muhammad,
Medical Coordinator,
IRC Hangu

Dated: 20/06/2000

SUBJECT: Vector Control intervention (Cattle Sponging) in Kotki-1 and 2 Refugee Villages during the year 2000.

Dear Sir,

Further to our letter dated 14/06/2000 regarding the Vector Control activities in Afghan Refugee Villages for the year 2000, I am sending the schedule for Cattle sponging in the above mentioned camps. Various operational and technical aspects of the campaign were discussed with you by HNI's Project Officer for Cattle Sponging during the meeting at your office on 09/06/2000.

The campaign will be conducted in three rounds. The schedule is as below:

• First round	June 26th to 30th
• Second round	August 7th to 12th
• Third round	September 18th to 23rd

HNI's Cattle Sponging team and entomologists will stay throughout the campaign in Hangu for monitoring. As in 1999, HNI will pay the wages of Spongers and diluters from available UNHCR funds by reprioritizing expenditures.

Please do not hesitate to contact me for any further information you may need in this regard.

Thanks.

Yours Sincerely,

Dr Fayaz Ahmad,
MLCP Coordinator.

Cc for information:

- Dr. Naveeda Rehman, Program Officer (Health), UNHCR Branch Office Islamabad
- Mr. Dost Muhammad Yusafzai, Assistant Programme Officer (Health), UNHCR SOP.
- Dr Javed Pervaiz, Project Director Health (A/R) NWFP
- Dr. Syed Jaffar Hussain, Deputy Director, HIS/PHC/MLCP, PDH

11 - A Circular Lane, P.O. Box 889, University Town, Peshawar, Pakistan
Tel : (92) 91 - 844474 & 42551 Fax : (92) 91 - 840379
E-mail: hnipesh@pes.comsats.net.pk

Ann. 13B/1

Firs round of stock sponging program in Hangu 2 Camps.
Carried out From 27/ 2000 TO 29 / 6 /2000.

S/N	Camps	Total Families	No of families have live stock	Sponged	Cattle	Sheep	Goats
1	Kotki 1	947	432	3095	1356	916	823
2	Kotki 2	858	326	1274	815	139	320
Total		1805	758	4369	2171	1055	1143

Cost of the program:

Casual Worker:
No of worker: Kotki 1 8 person
No of worker: Ko 2 8 person
Working days 3
Wage per person RS: 100

Ann. 13 B/2

2 nd round of Live stock sponging program in Hangu 2 Camps
Carried out from 7/8 /2000 TO 10/8 2000

S/NO	Camp	Total Families	Total Families have live stock	Sponged	Cattle	Sheep	Goats	Buffalo
1	Kotki 1	947	501	3109	1371	1144	594	0
2	Kotki 2	858	348	1031	666	116	249	0
Total		1805	849	4140	2037	1260	843	0

Cost of the program
No of Worker: Kotki 1 8 person
No of Worker: Kotki 2 8 person
Working days in Kotki 1 = 4
Working days in Kotki 2 =3
Wage per -person RS:100
Consume = 13 litre

Ann. 13 B/3

Third round Live stock sponging program in Hangu 2 Camps
Carried out from 18/9 /2000 TO 21/9 2000

S/NO	Camp	Total Families have live stock	Sponged	Cattle	Sheep	Goats	Buffalo
1	Kotki 1	430	2340	1073	798	468	0
2	Kotki 2	230	1010	593	133	284	0
Total		660	3350	1666	931	752	0

Cost of the program
No of Worker: Kotki 1 8 person
No of Worker: Kotki 2 8 person
Working days in Kotki 1 = 4
Working days in Kotki 2 =3
Wage per -person RS:100
Consume = 13 litre

Ann. 14 A

Annexes 14 a, b

Camps selected for ITNs Implementation in 2000

S.NO	District	Camp	Population	Intervention proposed for 2000
1	Peshawar	Azakhil-1	12654	RS+ITN
2	Peshawar	Azakhil-2	12362	RS+ITN
3	Peshawar	Badaber	11000	ITN
4	Mardan	Bhagica	9059	ITN
5	Bajaur	D.Dola	15307	ITN
6	Hangu	Dallan	10990	ITN+RS
7	Kohat	Ghamkol-1		
8	Kohat	Ghamkol-2	24117	ITN
9	Mianwali	K.chandna	28580	RS+ITN
10	Mardan	Kagan	3379	ITN
11	Hangu	Katakana	8437	ITN
12	Bajaur	Kerala	8365	ITN
13	Hangu	Kotki-2	5781	ITN+CS
14	Hangu	Naryab	5543	RS+ITN
15	Kohat	Oblan	10000	ITN
16	Hangu	Thall-1	11087	ITN
17	SWA	Zarinoor	18250	ITN
	HARI PUR			
18	Haripur	*Basomera*	13600	ITN
19	Haripur	Bhu2	12334	ITN
20	Haripur	Bhu4	14740	ITN
21	Haripur	Ghazi	14300	ITN

Ann. 14/B

HEALTH NET INTERNATIONAL
BED NET PROJECT NWFP+PUNJAB
Nets Sale Report of June - Dec 2000.

% DISTRICT WISE

S.NO	District	NGOs	Camp	Population	Intervention prop- for 2000	Bednets Needed	Bednets Issue	TotalNet Sold	SELLING %	Nets In Balance	Population% Cover
1	Peshawar	UAAR	Azakhil-2	12362	RS+ITN	450	250	238	*95.20*	12	*5.78*
		L.D.Islamia	Badaber	11000	ITN	400	200	56	*28.00*	144	*1.53*
		UAAR	Azakhil-1	12654	RS+ITN	450	250	52	*20.80*	198	*1.23*
2	Mardan	FPHC	Bhagica	9059	ITN	400	450	409	*90.89*	41	*13.54*
			Kagan	3379	ITN	200	150	83	*55.33*	67	*7.37*
3	Hangu	IRC	Naryab	5543	RS+ITN	250	400	255	*63.75*	145	*13.80*
			Kotki-2	5781	ITN+CS	250	350	250	*71.43*	100	*12.97*
			Dallan	10990	ITN+RS	400	400	318	*79.50*	82	*8.68*
			Thall-1	11087	ITN	350	200	109	*54.50*	91	*2.95*
			Katakana	8437	ITN	300	150	55	*36.67*	95	*1.96*
6	Bajaur	PDH	Kerala	8365	ITN	300	150	102	*68.00*	48	*3.66*
			D.Dola	15307	ITN	400	200	29	*14.50*	171	*0.57*
5	Kohat	PDH	Ghamkol-1			400	200	38	*19.00*	162	
			Ghamkol-2	24117	ITN	400	200	39	*19.50*	161	*0.95*
			Oblan	10000	ITN	350	150	29	*19.33*	121	*0.87*
6	Mianwali	PDH(P)	K.chandna	28580	RS+ITN	400	600	400	*66.67*	200	*4.20*
7	SWA	PDH	Zarinoor	18250	ITN	500	250	128	*51.20*	122	*2.10*

HARI PUR

S.NO	District	NGOs	Camp	Population	Intervention prop- for 2000	Bednets Needed	Bednets Issue	TotalNet Sold	SELLING %	Nets In Balance	Population% Cover
8	Haripur	SCF	Ghazi	14300	ITN	500	200	112	*56.00*	88	*2.35*
			Bhu4	14740	ITN	500	125	76	*60.80*	49	*1.55*
			Bhu2	12334	ITN	500	125	62	*49.60*	63	*1.51*
			Basomera	13600	ITN	500	125	30	*24.00*	95	*0.66*

Annex 15

MINUTES OF MEETING

Re: ITN sales policy in Haripur.

Present:

Ms Valerie Sejberg	SC-US
Dr Zahir	SC-US
Dr Fayaz Ahmad	HNI
Mr. Zahoor Jan	HNI

MINUTES

SC-US purchased 2000 nets and the required insecticides from the OPD fee revenue during 1999. The nets were provided by HNI and were supposed to be implemented in BHU 2 and 4. Despite our efforts the actual implementation of the project was postponed till the year 2000 due to delayed initiation during 1999.

Malaria Incidence rates in Basomera Refugee Village during 1999 were high, thus justifying the implementation of some sort of vector control intervention. The camp was selected for the distribution of Insecticide Treated Bednets. Since Basomera was supposed to receive its share of Bednets from the available UNHCR stock, the arrangement warranted the application of policy of paying 8% of the revenue generated to the community Health Supervisors as incentive. Application of the same policy in BHU 2 and 4 was not possible because the revenue collected out of sales of Bednets belonged to the community and SC-US considered it inappropriate to pay part of that money to paid BHU workers (CHSs).

After discussing various aspects of the issue, it was decided that:

1. SC-US will provide Bednets to Basomera from the stock purchased during 1999. This arrangement will enable us to have a uniform policy in all the three camps.
2. HealthNet International will provide the relevant stationary, Health Education materials and other related items for the implementation of the project.
3. Community Health Workers will educate and mobilize the community for purchasing the nets. They will prepare the lists of those who want to buy Bednets and will guide them to BHU. The Community Health Supervisors will explain the benefits of Insecticide Treated Bednets and impregnate the nets in front of the customers. The concerned Community Health Worker will be paid 8% of the revenue collected as incentive. It is noteworthy that in the remaining camps of NWFP where ITNs will be implemented, the incentive will be paid to Community Health Supervisors and not the CHWs. The adoption of a different policy for Haripur camps was based on:

Ann. 15/2

- Bednets implemented in these camps were purchased from OPD Fee Collection.
- The CHSs in Haripur receive distinctly higher salary compared to their counterparts elsewhere.
- As the ITN project gets maturer, HNI is planning to involve various other parties like CHWs, Social Animators etc in the implementation of the project. This will create an environment of competition between BHU and the volunteer workers. The implementation of the same policy in Haripur presently will give us a more deep insight of the various aspects of the strategy.

4. Health Net International will monitor various operational and technical aspects of the Bednet project in Haripur and advise SC-US accordingly.

Annex 16

HEALTHNET
INTERNATIONAL

INSECTICIDE TREATED BEDNETS IMPLEMENTATION CONTRACT

Implementation Region: Afghan Refugee Village Kot Chandna, District Mianwali, Punjab.
Contract between: HealthNet International and Project Director Health (AR's), Mianwali, (Punjab).

HealthNet International as Leading Agency and PDH (AR's), Mianwali, Punjab as implementing partner.

Contract period: June – December, 2000

Conditions:

1. HealthNet International will provide bednets, insecticide and other equipment used during the sale of Insecticide Impregnated Bednets from the available UNHCR funds.

2. Each Bednet (Impregnated) should be put on sale at the fixed rate of Pak. Rupees 210. HealthNet International reserves the right to revise the bednet price for the second lot if deemed necessary after consultation with the Implementing Partners. No more than 4 bednets will be sold to a single family.

3. The following year HealthNet International will provide insecticide for re-impregnation of the implemented bednets. Implementers are responsible for re-impregnation of all the implemented bednets in their area at a fixed rate of Rs. 15 per net.

4. Unsold bednets, any amount of the insecticide remaining and empty bottles of insecticide (the bottle with the same serial number issued to implementers) should be returned to HealthNet International at the end of implementation.

5. All the NGOs/ Implementing agencies will implement the program through their workers trained and certified by HNI. The implementers should give health education about malaria, role of impregnated bednets in the control of malaria and the proper use/ maintenance of impregnated bednets. Moreover, they will demonstrate bednet impregnation procedure and involve the community members in the process.

6. After the implementation of each lot, the implementers (Community Health Supervisors) will be paid 8% commission of the collected revenue as incentive. The commission will be paid after clearing the accounts and submission of the required data with HNI. Moreover, the Community Health Supervisors will receive Rs. 5 per net re-treated as incentive.

7. The revenue generated from the sale and re impregnation of bednets should be deposited to HealthNet International on regular basis soon after the implementation of the received lot of bednets.

Ann. 16/2

8. Implementing organization will be responsible for compensation of any loss of the collected revenue, insecticide or Bednets.

9. HealthNet International will not issue any further nets until the full revenue and required data is submitted to HealthNet office.

10. Implementing Agency will be responsible for collection of bednets, insecticide and other related logistics and is transportation to the implementation area.

11. Responsible person from the implementing agency will regularly submit final consolidated implementation reports to HNI on regular basis in case they are operating from more than one clinic.

12. As a guideline, Pashtu translation of the contract letter will be delivered to each implementer.

Signatures:

For

Program Coordinator (Refugee Project)
HealthNet International
Dated: 28 / 8 / 2000

Health Coordinator (AR`s)
PDH, Punjab
Dated: / / 2000

Copy for information:

- District Administrator (AR's), Mianwali, Punjab.
- Dr Naveeda Bano, UNHCR BOI.
- Mr. Naeem Durrani, UNHCR BOI.

Ann. 16/3

HN
HEALTHNET
INTERNATIONAL

INSECTICIDE TREATED BEDNETS IMPLEMENTATION CONTRACT

Implementation Region: Afghan Refugee Village Badaber (MM).

Contract between: HealthNet International and Lajnat-al-Dawwa al Islamia.

HealthNet International as Leading Agency and Lajnat-al-Dawwa al Islamia as implementing partner.

Contract period: June – December, 2000

Conditions:

1. HealthNet International will provide bednets, insecticide and other equipment used during the sale of Insecticide Impregnated Bednets from the available UNHCR funds.

2. Each Bednet (Impregnated) should be put on sale at the fixed rate of Pak. Rupees 210. HealthNet International reserves the right to revise the bednet price for the second lot if deemed necessary after consultation with the Implementing Partners. No more than 4 bednets will be sold to a single family.

3. The following year HealthNet International will provide insecticide for re-impregnation of the implemented bednets. Implementers are responsible for re-impregnation of all the implemented bednets in their area at a fixed rate of Rs. 15 per net.

4. Unsold bednets, any amount of the insecticide remaining, and empty bottles of insecticide (the bottle with the same serial number issued to implementers) should be returned to HealthNet International at the end of implementation.

5. All the NGOs/ Implementing agencies will implement the program through their workers trained and certified by HNI. The implementers should give health education about malaria, role of impregnated bednets in the control of malaria and the proper use/ maintenance of impregnated bednets. Moreover, they will demonstrate bednet impregnation procedure and involve the community members in the process.

6. After the implementation of each lot, the implementers (Community Health Supervisors) will be paid 8% commission of the collected revenue as incentive. The commission will be paid after clearing the accounts and submission of the required data with HNI. Moreover. the Community Health Supervisors will receive Rs. 5 per net re-treated as incentive.

7. The revenue generated from the sale and re impregnation of bednets should be deposited to HealthNet International on regular basis soon after the implementation of the received lot of bednets.

Ann. 16/4

8 Implementing organization will be responsible for compensation of any loss of the collected revenue, insecticide or Bednets.

9. HealthNet International will not issue any further nets until the full revenue and required data is submitted to HealthNet office.

11. Implementing Agency will be responsible for collection of bednets, insecticide and other related logistics and is transpbortation to the implementation area.

12. Responsible person from the implementing agency will regularly submit final consolidated implementation reports to HNI on regular basis in case they are operating from more than one clinic.

13. As a guideline, Pashtu translation of the contract letter will be delivered to each implementer.

Signatures:

Project Coordinator (Refugee Project)
HealthNet International

Date 13 / 6 2000

Director,
Lajnat-al-Dawwa al Islamia.

Date 13 6. 2000

Copy for information

- Project Director Health (A/R) NWFP.
- Dr Naveeda Bano, UNHCR BOI.
- Mr. Dost Muhammad Yusafzai, UNHCR SOP

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HEALTHNET
INTERNATIONAL

INSECTICIDE TREATED BEDNETS IMPLEMENTATION CONTRACT

Implementation Region: Afghan Refugee Villages Gamkol, Oblan, Kerala, Damadola & Zari Noor.

Contract between: HealthNet International and Project Directorate Health for Afghan Refugees.

HealthNet International as Leading Agency and PDH as implementing partner.

Contract period: June – December, 2000

Conditions:

1. HealthNet International will provide bednets, insecticide and other equipment used during the sale of Insecticide Impregnated Bednets from the available UNHCR funds.
2. Each Bednet (Impregnated) should be put on sale at the fixed rate of Pak. Rupees 210. HealthNet International reserves the right to revise the bednet price for the second lot if deemed necessary after consultation with the Implementing Partners. No more than 4 bednets will be sold to a single family.
3. The following year HealthNet International will provide insecticide for re-impregnation of the implemented bednets. Implementers are responsible for re-impregnation of all the implemented bednets in their area at a fixed rate of Rs. 15 per net.
4. Unsold bednets, any amount of the insecticide remaining and empty bottles of insecticide (the bottle with the same serial number issued to implementers) should be returned to HealthNet International at the end of implementation.
5. All the NGOs/ Implementing agencies will implement the program through their workers trained and certified by HNI. The implementers should give health education about malaria, role of impregnated bednets in the control of malaria and the proper use/ maintenance of impregnated bednets. Moreover, they will demonstrate bednet impregnation procedure and involve the community members in the process.
6. After the implementation of each lot, the implementers (Community Health Supervisors) will be paid 8% commission of the collected revenue as incentive. The commission will be paid after clearing the accounts and submission of the required data with HNI. Moreover, the Community Health Supervisors will receive Rs. 5 per net re-treated as incentive.
7. The revenue generated from the sale and re impregnation of bednets should be deposited to HealthNet International on regular basis soon after the implementation of the received lot of bednets.

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8. Implementing organization will be responsible for compensation of any loss of the collected revenue, insecticide or Bednets.

9. HealthNet International will not issue any further nets until the full revenue and required data is submitted to HealthNet office.

11. Implementing Agency will be responsible for collection of bednets, insecticide and other related logistics and is transportation to the implementation area.

12. Responsible person from the implementing agency will regularly submit final consolidated implementation reports to HNI on regular basis in case they are operating from more than one clinic.

13. As a guideline, Pashtu translation of the contract letter will be delivered to each implementer.

Signatures:

Program Coordinator (Refugee Project)
HealthNet International

Dated: 12/6/2000

Deputy Director HIS/MLC/PHC.
PDH (A/R).

Dated: 13/6 /2000

Cc:
- Field Supervising Medical Officer A/R Bajawar/Dir for information and necessary action.
- Field Supervising Medical Officer A/R South Waziristan Agency for information and necessary action.
- Field Supervising Medical Officer A/R Peshawar/Kohat for information and necessary action.
- Dr Naveeda Bano, UNHCR BOI for information.
- Mr. Dost Muhammad Yusafzai, UNHCR SOP for information.

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HEALTHNET
INTERNATIONAL

INSECTICIDE TREATED BEDNETS IMPLEMENTATION CONTRACT

Implementation Region: Afghan Refugee Villages Naryab, Kotki-2, Dalan, Katakana, and Thall-1.

Contract between: HealthNet International and International Rescue Committee (IRC).

HealthNet International as Leading Agency and IRC as implementing partner.

Contract period: June – December, 2000

Conditions:

1. HealthNet International will provide bednets, insecticide and other equipment used during the sale of Insecticide Impregnated Bednets from the available UNHCR funds.

2. Each Bednet (Impregnated) should be put on sale at the fixed rate of Pak. Rupees 210. HealthNet International reserves the right to revise the bednet price for the second lot if deemed necessary after consultation with the Implementing Partners. No more than 4 bednets will be sold to a single family.

3. The following year HealthNet International will provide insecticide for re-impregnation of the implemented bednets. Implementers are responsible for re-impregnation of all the implemented bednets in their area at a fixed rate of Rs. 15 per net.

4. Unsold bednets, any amount of the insecticide remaining and empty bottles of insecticide (the bottle with the same serial number issued to implementers) should be returned to HealthNet International at the end of implementation.

5. All the NGOs/ Implementing agencies will implement the program through their workers trained and certified by HNI. The implementers should give health education about malaria, role of impregnated bednets in the control of malaria and the proper use/ maintenance of impregnated bednets. Moreover, they will demonstrate bednet impregnation procedure and involve the community members in the process.

6. After the implementation of each lot, the implementers (Community Health Supervisors) will be paid 8% commission of the collected revenue as incentive. The commission will be paid after clearing the accounts and submission of the required data with HNI. Moreover, the Community Health Supervisors will receive Rs. 5 per net re-treated as incentive.

7. The revenue generated from the sale and re impregnation of bednets should be deposited to HealthNet International on regular basis soon after the implementation of the received lot of bednets.

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8. Implementing organization will be responsible for compensation of any loss of the collected revenue, insecticide or Bednets.

9. HealthNet International will not issue any further nets until the full revenue and required data is submitted to HealthNet office.

11. Implementing Agency will be responsible for collection of bednets, insecticide and other related logistics and is transportation to the implementation area.

12. Responsible person from the implementing agency will regularly submit final consolidated implementation reports to HNI on regular basis in case they are operating from more than one clinic.

13. As a guideline, Pashtu translation of the contract letter will be delivered to each implementer.

Signatures:

Program Coordinator (Refugee Project)
HealthNet International

Dated: / /2000

Health Coordinator,
IRC Hangu.

Dated: 8/6/2000

Copy for information

- Project Director Health (A/R) NWFP.
- Dr Naveeda Bano, UNHCR BOI.
- Mr. Dost Muhammad Yusafzai, UNHCR SOP

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HEALTHNET
INTERNATIONAL

INSECTICIDE TREATED BEDNETS IMPLEMENTATION CONTRACT

Implementation Region: Afghan Refugee Villages Azakhail 1 & 2.

Contract between: HealthNet International and Project Manager Union Aid for Afghan Refugees.

HealthNet International as Leading Agency and Union Aid for Afghan Refugees (UAAR) as implementing partner.

Contract period: June – December, 2000

Conditions:

1. HealthNet International will provide bednets, insecticide and other equipment used during the sale of Insecticide Impregnated Bednets from the available UNHCR funds.

2. Each Bednet (Impregnated) should be put on sale at the fixed rate of Pak. Rupees 210. HealthNet International reserves the right to revise the bednet price for the second lot if deemed necessary after consultation with the Implementing Partners. No more than 4 bednets will be sold to a single family.

3. The following year HealthNet International will provide insecticide for re-impregnation of the implemented bednets. Implementers are responsible for re-impregnation of all the implemented bednets in their area at a fixed rate of Rs. 15 per net.

4. Unsold bednets, any amount of the insecticide remaining, and empty bottles of insecticide (the bottle with the same serial number issued to implementers) should be returned to HealthNet International at the end of implementation.

5. All the NGOs/ Implementing agencies will implement the program through their workers trained and certified by HNI. The implementers should give health education about malaria, role of impregnated bednets in the control of malaria and the proper use/ maintenance of impregnated bednets. Moreover, they will demonstrate bednet impregnation procedure and involve the community members in the process.

6. After the implementation of each lot, the implementers (Community Health Supervisors) will be paid 8% commission of the collected revenue as incentive. The commission will be paid after clearing the accounts and submission of the required data with HNI. Moreover, the Community Health Supervisors will receive Rs. 5 per net re-treated as incentive.

7. The revenue generated from the sale and re impregnation of bednets should be deposited to HealthNet International on regular basis soon after the implementation of the received lot of bednets.

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8. Implementing organization will be responsible for compensation of any loss of the collected revenue, insecticide or Bednets.

9. HealthNet International will not issue any further nets until the full revenue and required data is submitted to HealthNet office.

11. Implementing Agency will be responsible for collection of bednets, insecticide and other related logistics and is transportation to the implementation area.

12. Responsible person from the implementing agency will regularly submit final consolidated implementation reports to HNI on regular basis in case they are operating from more than one clinic.

13. As a guideline, Pashtu translation of the contract letter will be delivered to each implementer.

Signatures:

Program Coordinator (Refugee Project)
HealthNet International

Dated: 15/6/2000

Project Manager UAAR.

Dated: 15/6/2000

Copy for information

- Project Director Health (A/R) NWFP.
- Dr Naveeda Bano, UNHCR BOI.
- Mr. Dost Muhammad Yusafzai, UNHCR SOP

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HEALTHNET
INTERNATIONAL

INSECTICIDE TREATED BEDNETS IMPLEMENTATION CONTRACT

Implementation Region: Afghan Refugee Villages Kagan and Baghicha.

Contract between: HealthNet International and Director Frontier Primary Health Care (FPHC).

HealthNet International as Leading Agency and FPHC as implementing partner.

Contract period: June – December, 2000

Conditions:

1. HealthNet International will provide bednets, insecticide and other equipment used during the sale of Insecticide Impregnated Bednets from the available UNHCR funds.

2. Each Bednet (Impregnated) should be put on sale at the fixed rate of Pak. Rupees 210. HealthNet International reserves the right to revise the bednet price for the second lot if deemed necessary after consultation with the Implementing Partners. No more than 4 bednets will be sold to a single family.

3. The following year HealthNet International will provide insecticide for re-impregnation of the implemented bednets. Implementers are responsible for re-impregnation of all the implemented bednets in their area at a fixed rate of Rs. 15 per net.

4. Unsold bednets, any amount of the insecticide remaining, and empty bottles of insecticide (the bottle with the same serial number issued to implementers) should be returned to HealthNet International at the end of implementation.

5. All the NGOs/ Implementing agencies will implement the program through their workers trained and certified by HNI. The implementers should give health education about malaria, role of impregnated bednets in the control of malaria and the proper use/ maintenance of impregnated bednets. Moreover, they will demonstrate bednet impregnation procedure and involve the community members in the process.

6. After the implementation of each lot, the implementers (Community Health Supervisors) will be paid 8% commission of the collected revenue as incentive. The commission will be paid after clearing the accounts and submission of the required data with HNI. Moreover, the Community Health Supervisors will receive Rs. 5 per net re-treated as incentive.

7. The revenue generated from the sale and re impregnation of bednets should be deposited to HealthNet International on regular basis soon after the implementation of the received lot of bednets.

Ann. 16/12

8. Implementing organization will be responsible for compensation of any loss of the collected revenue, insecticide or Bednets.

9. HealthNet International will not issue any further nets until the full revenue and required data is submitted to HealthNet office.

11. Implementing Agency will be responsible for collection of bednets, insecticide and other related logistics and is transportation to the implementation area.

12. Responsible person from the implementing agency will regularly submit final consolidated implementation reports to HNI on regular basis in case they are operating from more than one clinic.

13. As a guideline, Pashtu translation of the contract letter will be delivered to each implementer.

Signatures:

Project Coordinator (Refugee Project)
HealthNet International

Dated: 13 / 6 / 2000

Director,
FPHC Mardan.

Dated: 13/ 6 / 2000

Copy for information

- Project Director Health (A/R) NWFP.
- Dr Naveeda Bano, UNHCR BOI.
- Mr. Dost Muhammad Yusafzai, UNHCR SOP

Pre-Implementation KAP survey in Oblan Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Oblan Refugees camp. Ninety-seven families were randomly selected. Totally 97 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 97.
2. The relation of the person interviewed to the families:
    - Household head 60.8%,
    - Other family member 39.2%.
3. Educational status of the Household head:
    - No formal education 66%,
    - Primary level 25.8%,
    - Matric level 4.1%,
    - Above matric level 4.1%.
4. Employment status of the household head:
    - Unemployed 29.9%,
    - Employed 1%,
    - Self employed 69.1%.
5. Average family sizes 11 individuals.
6. Average number of children less than 5 years old = 3 per household.
7. Other family members supporting the family by earning income/wages:
    - Yes 53.6% (1 in 40.4% of the families, 2 in 28.8% of the families, >2 in 30.8% of the families)
    - No 46.4%.
8. Average monthly expenses of the family:
    - Mean Rs.5918 per month,
    - Median Rs. 4000 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
    - Yes 100%,
    - No 0%
10. Knowledge of signs and symptoms of the disease:
    - Fever 3.1 %
    - Fever, Chills and Joint Pains 6.3%,
    - Fever , Chills and Headache 42.7%

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- Fever, Chills and Vomating 11.2%
- Other combinations 36.7%.

11. Knowledge of the causes of malaria:
    - Mosquitoes76. %,
    - Dirt and Stagnant water 6.3%,
    - Mosquitoes and Dirt 7%,
    - Mosquitoes and Stagnant water 4.2%,
    - Other combinations .6.5%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 82.5%,
    - Go to pharmacy 4.1%,
    - Blood smear 12.4%,
    - Self-treatment 1%
    - Other 0%.
13. Average number of individuals who suffered from malaria during the last one year 4 persons per household.
14. Average amount of money spent per malaria patient Rs 295.
15. Mosquitoes as a problem in the area:
    - Yes 100%,
    - No 0%.
16. Knowledge of ways and means to protect himself from malaria:
    - Spray 2.1%,
    - Bednet 22.7%,
    - Insect Repellants 1%,
    - Combinations of the above 13.4%,
    - Don't know 17.5%,
    - Other 43.3%.
17. Knowledge of Bednets:
    - Yes 96.9%
    - No 3.1%.
18. Existing nets in the family:
    - Yes 5.2% (Average number per family 2.6)
    - No 94.8%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 74.2%,
    - No 25.8%.
20. Average number of Bednets people wants to buy 2.2 per family:
21. Sleeping habits of the people during summer:
    - Inside 12.4%,
    - Outside 87.6%,
    - On the floor 17.5%,
    - On the bed 82.5%,

Pre-Implementation KAP survey in Naryab Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Naryab Refugees camp. Seventy-one families were randomly selected. Totally 71 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 71.
2. The relation of the person interviewed to the families:
    - Household head 60.6%,
    - Other family member 39.4%.
3. Educational status of the Household head:
    - No formal education 73.2%,
    - Primary level 12.7%,
    - Matric level 1.4%,
    - Above matric level 12.7%.
4. Employment status of the household head:
    - Unemployed 39.4%,
    - Employed 9.9%,
    - Self employed 50.7%.
5. Average family sizes 14 individuals.
6. Average number of children less than 5 years old = 3 per household.
7. Other family members supporting the family by earning income/wages:
    - Yes 64.8% (1 in 42.2% of the families, 2 in 22.2% of the families, >2 in 35.6% of the families)
    - No 35.2%.
8. Average monthly expenses of the family:
    - Mean Rs. 6213 per month,
    - Median Rs. 5000 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
    - Yes 100%,
    - No 0%
10. Knowledge of signs and symptoms of the disease:
    - Fever 18.3 %
    - Fever, Chills, Joint Pains 38%,
    - Fever, Chills and Headache 2.8%

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- Fever, Chills and Vomating 4.2%
- Other combinations 36.7%.

11. Knowledge of the causes of malaria
    - Mosquitoes 85.7%,
    - Dirt and Stagnant water 1.4%,
    - Mosquitoes and Dirt 9.3%,
    - Mosquitoes and Stagnant water 2.9%,
    - Other combinations .7%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 52.1%,
    - Go to pharmacy 2.8%,
    - Blood smear 39.4%,
    - Self-treatment 2.8%
    - Other 2.9%.
13. Average number of individuals who suffered from malaria during the last one year 11 persons per household.
14. Average amount of money spent per malaria patient Rs 655.
15. Mosquitoes as a problem in the area:
    - Yes 100%,
    - No 0%.
16. Knowledge of ways and means to protect himself from malaria
    - Spray 5.6%,
    - Bednet 43.3%,
    - Insect Repellants 0%,
    - Combinations of the above 35.2%,
    - Don't know 7.8%,
    - Other 8.1%.
17. Knowledge of Bednets:
    - Yes 100%
    - No 0%.
18. Existing nets in the family:
    - Yes 5.6% (Average number per family 2.2)
    - No 94.4%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 64.8%,
    - No 35.2%.
20. Average number of Bednets people wants to buy 3.5 per family.
21. Sleeping habits of the people during summer:
    - Inside 7%,
    - Outside 93%,
    - On the floor 50.7%,
    - On the bed 49.3%

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Pre-Implementation KAP survey in Kotki-2 Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Kotki-2 Refugees camp. Sixty-four families were randomly selected. Totally 64 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 64.
2. The relation of the person interviewed to the families:
    - Household head 62.5%,
    - Other family member 37.5%.
3. Educational status of the Household head:
    - No formal education 64.1%,
    - Primary level 14.1%,
    - Matric level 6.3%,
    - Above matric level 15.5%.
4. Employment status of the household head:
    - Unemployed 31.3%,
    - Employed 15.6%,
    - Self employed 53.1%.
5. Average family sizes 14 individuals.
6. Average number of children less than 5 years old = 3 per household.
7. Other family members supporting the family by earning income/wages:
    - Yes 73.4% (1 in 38.3% of the families, 2 in 31.2% of the families, >2 in 30.5% of the families)
    - No 26.6%.
8. Average monthly expenses of the family:
    - Mean Rs. 6051 per month,
    - Median Rs. 5000 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
    - Yes 98.4%,
    - No 1.6%
10. Knowledge of signs and symptoms of the disease:
    - Fever 4.8 %
    - Fever, Chills and Joint Pains 20.5%,
    - Fever and Chills Headache 6.3%

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- Fever, Chills and Vomating 17.4%
- Other combinations. 51%.

11. Knowledge of the causes of malaria
    - Mosquitoes 75%,
    - Dirt and Stagnant water 7.8%,
    - Mosquitoes and Dirt 6.3%,
    - Mosquitoes and Stagnant water 6.3%,
    - Other combinations 4.6%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 46.9%,
    - Go to pharmacy 1.6%,
    - Blood smear 46.9%,
    - Self-treatment 3.1%
    - Other 1.5 %.
13. Average number of individuals who suffered from malaria during the last one year 10 persons per household.
14. Average amount of money spent per malaria patient Rs 613.
15. Mosquitoes as a problem in the area:
    - Yes 100%,
    - No 0%.
16. Knowledge of ways and means to protect himself from malaria
    - Spray 14.5%,
    - Bednet 46.8%,
    - Insect repellants 0%,
    - Combinations of the above 9.7%,
    - Don't know 1.6%,
    - Other 27.4%.
17. Knowledge of Bednets:
    - Yes 96.9%
    - No 3.1%.
18. Existing nets in the family:
    - Yes 28.1% (Average number per family 1.7)
    - No 71.9%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 73.4%,
    - No 26.6%.
20. Average number of Bednets people wants to buy 3.6 per family.
21. Sleeping habits of the people during summer:
    - Inside 17.2%,
    - Outside 82.8%,
    - On the floor 34.9%,
    - On the bed 65.1%

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Pre-Implementation KAP survey in Kirala Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Kirala Refugees camp. Sixty-two families were randomly selected. Totally 62 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 62.
2. The relation of the person interviewed to the families:
    - Household head 78.7%,
    - Other family member 21.3%.
3. Educational status of the Household head:
    - No formal education 56.5%,
    - Primary level 14.5%,
    - Matric level 16.1%,
    - Above matric level 12.9%.
4. Employment status of the household head:
    - Unemployed 44.3%,
    - Employed 4.9%,
    - Self employed 50.8%.
5. Average family sizes 16 individuals.
6. Average number of children less than 5 years old = 5 per household.
7. Other family members supporting the family by earning income/wages:
    - Yes 51.6% (1 in 46.7% of the families, 2 in 33.3% of the families, >2 in 20% of the families)
    - No 48.4%.
8. Average monthly expenses of the family:
    - Mean Rs. 3600 per month,
    - Median Rs. 2550 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
    - Yes 96.7%,
    - No 3.3%
10. Knowledge of signs and symptoms of the disease:
    - Fever 3.3 %
    - Fever, Chills, and Joint Pains 28. %,
    - Fever, Chills and Headache 4.9%,

- Fever, Chills and Vomating. 6.6%,
- Other combinations 57.2%.

11. Knowledge of the causes of malaria
    - Mosquitoes 36.7%,
    - Dirt and Stagnant water 6.6%,
    - Mosquitoes and Dirt 20%,
    - Mosquitoes and Stagnant water 15%,
    - Other combinations 21.7%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 93.3%,
    - Go to pharmacy 3.3%,
    - Blood smear 3.3%,
    - Self-treatment 0%,
    - Other 0.1%.
13. Average number of individuals who suffered from malaria during the last one year 6 persons per household.
14. Average amount of money spent per malaria patient Rs 298.
15. Mosquitoes as a problem in the area:
    - Yes 98.4%,
    - No 1.6%.
16. Knowledge of ways and means to protect himself from malaria
    - Spray 19.4%,
    - Bednet 6.5%,
    - Insect Repellants 3.2%,
    - Combinations of the above 45.2%,
    - Don't know 16.1%,
    - Other 9.6%.
17. Knowledge of Bednets:
    - Yes 100%
    - No 0%.
18. Existing nets in the family:
    - Yes 3.2% (Average number per family 2.5)
    - No 96.8%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 67.2%,
    - No 32.8%.
20. Average number of Bednets people wants to buy 3.5 per family:
21. Sleeping habits of the people during summer:
    - Inside 9.7%,
    - Outside 90.3%,
    - On the floor 1.6%,
    - On the bed 98.4%

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Pre-Implementation KAP survey in Katakana Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Katakana Refugees camp. One hundred and ten families were randomly selected. Totally 110 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 110.
2. The relation of the person interviewed to the families:
   - Household head 50%,
   - Other family member 50%.
3. Educational status of the Household head:
   - No formal education 71.8%,
   - Primary level 10.9%,
   - Matric level 9.1%,
   - Above matric level 8.2%.
4. Employment status of the household head:
   - Unemployed 43.6%,
   - Employed 8.2%,
   - Self employed 48.2%.
5. Average family sizes 15 individuals.
6. Average number of children less than 5 years old = 3 per household.
7. Other family members supporting the family by earning income/wages:
   - Yes 78.2% (1 in 34.9 % of the families, 2 in 32.6% of the families, >2 in 32.5% of the families)
   - No 21.8%.
8. Average monthly expenses of the family:
   - Mean Rs. 7965 per month,
   - Median Rs. 5000 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
   - Yes 100%,
   - No 0%
10. Knowledge of signs and symptoms of the disease:
    - Fever 17.9 %
    - Fever, Chills, and Joint Pains 5.7%,
    - Fever and Chills 25.5%

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- Fever, Chills and Vomating 10.4%,
- Other combinations 40.5%.

11. Knowledge of the causes of malaria:
    - Mosquitoes 50.9%,
    - Dirt and Stagnant water 3.7%,
    - Mosquitoes and Dirt 17.6%,
    - Mosquitoes and Stagnant water 8.3%,
    - Other combinations 19.5%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 61.8%,
    - Go to pharmacy 0.9%,
    - Blood smear 33.6%,
    - Self-treatment 0.9
    - Other 2.8%.
13. Average number of individuals who suffered from malaria during the last one year 5 persons per household.
14. Average amount of money spent per malaria patient Rs 355.
15. Mosquitoes as a problem in the area:
    - Yes 99.1%,
    - No 0.9%.
16. Knowledge of ways and means to protect himself from malaria:
    - Spray 10%,
    - Bednet 27.3%,
    - Insect Repellants 0%,
    - Combinations of the above 7.3%,
    - Don't know 13.6%,
    - Other 41.8%.
17. Knowledge of Bednets:
    - Yes96.4%
    - No 3.6%.
18. Existing nets in the family:
    - Yes 15.5% (Average number per family 2.1)
    - No 84.5%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 47.3%,
    - No 52.7%.
20. Average number of Bednets people wants to buy 2.8 per family:
21. Sleeping habits of the people during summer:
    - Inside 20.2%,
    - Outside 79.8%,
    - On the floor 29%,
    - On the bed 71%

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Pre-Implementation KAP survey in Gamkol Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Gamkol Refugees camp. One Hundred and twenty three families were randomly selected. Totally 123 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Isecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. No of households interviewed 123.
2. The relation of the person interviewed to the families:
   - Household head 65.9%,
   - Other family member 34.1%.
3. Educational status of the Household head:
   - No formal education 65.9%,
   - Primary level 22.8%,
   - Matric level 6.5%,
   - Above matric level 4.8%.
4. Employment status of the household head:
   - Unemployed 35%,
   - Employed 1.6%,
   - Self employed 63.4%.
5. Average family sizes 14 individuals.
6. Average number of children less than 5 years old = 3 per household.
7. Other family members supporting the family by earning income/wages:
   - Yes 63.4% (1 in 37.2% of the families, 2 in 32.1% of the families, >2 in 30.7% of the families)
   - No 36.6%.
8. Average monthly expenses of the family:
   - Mean Rs. 6581 per month,
   - Median Rs. 5000 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
   - Yes 100%,
   - No 0%
10. Knowledge of signs and symptoms of the disease:
    - Fever, Chills and Joint Pains 19.6%,
    - Fever and Chills 24.4%
    - Fever, Chills and Vomating 19.5%

Ann. 17/12

- Other combinations 36.5%.

11. Knowledge of the causes of malaria
    - Mosquitoes 66.7%,
    - Dirt and Stagnant water 3.3%,
    - Mosquitoes and Dirt 11.5%,
    - Mosquitoes and Stagnant water 4.11%,
    - Other combinations 14.4%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 74.8%,
    - Go to pharmacy 6.5%,
    - Blood smear 17.1%,
    - Other 1.60%.
13. Average number of individuals who suffered from malaria during the last one year 6 persons per household.
14. Average amount of money spent per malaria patient Rs 363.
15. Mosquitoes as a problem in the area:
    - Yes 100%,
    - No 0%.
16. Knowledge of ways and means to protect himself from malaria
    - Spray 2.4%,
    - Bednet 8.9%,
    - Insect Repellants 0%,
    - Combinations of the above 22.1%,
    - Don't know 8.9%,
    - Other 57.7%.
17. Knowledge of Bednets:
    - Yes100%
    - No 0%.
18. Existing nets in the family:
    - Yes 4.1% (Average number per family 2)
    - No 95.9%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 86.2%,
    - No 13.8%.
20. Average number of Bednets people wants to buy 3.6 per family:
21. Sleeping habits of the people during summer:
    - Inside 15.4%,
    - Outside 84.6%,
    - On the floor 19.7%,
    - On the bed 80.3%

Ann. 17/13

Pre-Implementation KAP survey in Damadola Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Damadola Refugees camp. Sixty-nine families were randomly selected. Totally 69 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 69.
2. The relation of the person interviewed to the families:
   - Household head 68.8%,
   - Other family member 31.2%.
3. Educational status of the Household head:
   - No formal education 46.9%,
   - Primary level 25%,
   - Matric level 10.9%,
   - Above matric level 17.2%.
4. Employment status of the household head:
   - Unemployed 38.1%,
   - Employed 14.3%,
   - Self employed 47.6%.
5. Average family sizes 15 individuals.
6. Average number of children less than 5 years old = 3 per household.
7. Other family members supporting the family by earning income/wages:
   - Yes 56.3% (1 in 55.6 %of the families, 2 in 22.2% of the families, >2 in 22.2% of the families)
   - No 43.7%.
8. Average monthly expenses of the family:
   - Mean Rs. 4664 per month,
   - Median Rs. 3500 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
   - Yes 95.3%,
   - No 4.7%
10. Knowledge of signs and symptoms of the disease:
    - Fever, Chills, Headache, and Joint Pains 34.9%,
    - Fever and Chills 25.4%
    - Fever, Chills and Joint Pains 30.2%

Ann. 17/14

- Fever, Headache and Joint Pains 4.8%,
- Other combinations 4.7%.

11. Knowledge of the causes of malaria
    - Mosquitoes 21.9%,
    - Mosquitoes, Dirt and Stagnant water 20.3%,
    - Mosquitoes and Dirt 23.4%,
    - Mosquitoes and Stagnant water 9.4%,
    - Other combinations 25%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 100%,
    - Go to pharmacy 0%,
    - Blood smear 0%,
    - Self-treatment 0%,
    - Other 0%.
13. Average number of individuals who suffered from malaria during the last one year 5 persons per household.
14. Average amount of money spent per malaria patient Rs 321.
15. Mosquitoes as a problem in the area:
    - Yes 95.3100%,
    - No 4.7%.
16. Knowledge of ways and means to protect himself from malaria
    - Spray 9.4%,
    - Bednet 20.3%,
    - Insect Repellants 4.7%,
    - Combinations of the above 26.6%,
    - Don't know 29.7%,
    - Other 9.3%.
17. Knowledge of Bednets:
    - Yes 95.3%
    - No 4.7%.
18. Existing nets in the family:
    - Yes 6.3% (Average number per family 1.5)
    - No 93.7%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 84.4%,
    - No 15.6%.
20. Average number of Bednets people wants to buy 5.11 per family.
21. Sleeping habits of the people during summer:
    - Inside 10.9%,
    - Outside 89.1%,
    - On the floor 3.1%,
    - On the bed 96.9%

Ann. 17/15

Pre-Implementation KAP survey in Dalan Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Dalan Refugees camp. One hundred and two families were randomly selected. Totally 102 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 102.
2. The relation of the person interviewed to the families:
    - Household head 57.8%,
    - Other family member 42.2%.
3. Educational status of the Household head:
    - No formal education 82.4%,
    - Primary level 7.8%,
    - Matric level 2.9%,
    - Above matric level 6.9%.
4. Employment status of the household head:
    - Unemployed 39.2%,
    - Employed 4.9%,
    - Self employed 55.9%.
5. Average family sizes 15 individuals.
6. Average number of children less than 5 years old = 3 per household.
7. Other family members supporting the family by earning income/wages:
    - Yes 76.5% (1 in 30.8% of the families, 2 in 35.9% of the families, >2 in 33.3% of the families)
    - No 23.5%.
8. Average monthly expenses of the family:
    - Mean Rs. 6853 per month,
    - Median Rs. 5000 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
    - Yes 100 %,
    - No 0%
10. Knowledge of signs and symptoms of the disease:
    - Fever, Chills, Headache, Joint Pains and Backache 39.1%
    - Fever and Chills 17.6%
    - Fever, Chills and Joint Pains 2.9%,

- Fever, Headache and Joint Pains 6.8%,
- Other combinations 33.6%.

11. Knowledge of the causes of malaria
    - Mosquitoes 72.3%,
    - Mosquitoes, Dirt and Stagnant water 8.9%,
    - Mosquitoes and Dirt 6.9%,
    - Mosquitoes and Stagnant water 2%,
    - Other combinations 9.9%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 70.6%,
    - Go to pharmacy 0%,
    - Blood smear 24.5%,
    - Self-treatment 2.9%,
    - Other 2%.
13. Average number of individuals who suffered from malaria during the last one year 13 persons per household.
14. Average amount of money spent per malaria patient Rs 547.
15. Mosquitoes as a problem in the area:
    - Yes 100%,
    - No 0%.
16. Knowledge of ways and means to protect himself from malaria:
    - Spray 2%,
    - Bednet 70.6%,
    - Spray and Bednet 8.8%
    - Combinations of the above 6.8%,
    - Don't know 4.9%,
    - Other 6.9%.
17. Knowledge of Bednets:
    - Yes 100%
    - No 0%.
18. Existing nets in the family:
    - Yes 30.4% (Average number per family 3.25)
    - No 69.6%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 61.8%,
    - No 38.2%.
20. Average number of Bednets people wants to buy 3.3 per family:
21. Sleeping habits of the people during summer:
    - Inside 8.1%,
    - Outside 91.9%,
    - On the floor 10%,
    - On the bed 90%.

Ann. 17/17

Pre-Implementation KAP survey in Badaber Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Badaber Refugees camp. One hundred and twenty-two families were randomly selected. Totally 122 Households were interviewed for their knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 122.
2. The relation of the person interviewed to the families:
    - Household head 73 %,
    - Other family member 27 %.
3. Educational status of the Household head:
    - No formal education 80.3%,
    - Primary level 13.2 %,
    - Matric level 5.7 %,
    - Above matric level 10.8 %.
4. Employment status of the household head:
    - Unemployed 37.7%,
    - Employed 3.3%,
    - Self employed 59%.
5. Average family sizes 13 individuals.
6. Average number of children less than 5 years old = 3 per household.
7. Other family members supporting the family by earning income/wages:
    - Yes 59 % (1 in 38.9% of the families, 2 in 23.6 % of the families, >2 in 37.5% of the families)
    - No 41%.
8. Average monthly expenses of the family:
    - Mean Rs. 6268 per month,
    - Median Rs. 5000 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
    - Yes 100 %,
    - No 0%
10. Knowledge of signs and symptoms of the disease:
    - Fever, Chills, Headache, Joint Pains and Backache 20.2%,
    - Fever and Chills 28.6%,
    - Fever, Chills and Joint Pains 6.3%,

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- Fever, Headache and Joint Pains 8.2%,
- Other combinations 36.7%.

11. Knowledge of the causes of malaria:
    - Mosquitoes 71%,
    - Mosquitoes, Dirt and Stagnant water 6.6%,
    - Mosquitoes and Dirt 8.3%,
    - Mosquitoes and Stagnant water 3.3%,
    - Other combinations 10.7%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 91%,
    - Go to pharmacy 2.5%,
    - Blood smear 6.5%,
    - Self-treatment 0%,
    - Other 0%.
13. Average number of individuals who suffered from malaria during the last one year 7 persons per household.
14. Average amount of money spent per malaria patient Rs 249.5
15. Mosquitoes as a problem in the area:
    - Yes 100%,
    - No 0%.
16. Knowledge of ways and means to protect himself from malaria :
    - Spray 5%,
    - Bednet 10%,
    - Insect Repellants 15%
    - Combinations of the above 12.5%,
    - Don't know 14.2%,
    - Other 42.5%.
17. Knowledge of Bednets:
    - Yes 96.7%
    - No 3.3%.
18. Existing nets in the family:
    - Yes 3.3% (Average number per family 1.3)
    - No 96.7%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 68%,
    - No 32%.
20. Average number of Bednets people wants to buy 2.867 per family:
21. Sleeping habits of the people during summer:
    - Inside 17.2%,
    - Outside 82.8%,
    - On the floor 21.3%,
    - On the bed 78.7%.

Ann 17/13

Pre-Implementation KAP survey in Azakhel Refugee camp:

KAP surveys were carried out before the start of Bednet implementation in Azakhel Refugees camp. One hundred and fourteen families were randomly selected. Totally 114 Households were interviewed for their Knowledge, Attitude, and Practices regarding the use of the Insecticide Treated Bednets (ITNs). The result will help us for the proper designing and implementation of the Bednet project in the community for the year 2000.

After a rapid analysis the most important findings were:

1. Number of households interviewed 114.
2. The relation of the person interviewed to the families:
   - Household head 76.3 %,
   - Other family member 23.7 %.
3. Educational status of the Household head:
   - No formal education 78.1%,
   - Primary level 12.3 %,
   - Matric level 7 %,
   - Above matric level 2.6 %.
4. Employment status of the household head:
   - Unemployed 33.6%,
   - Employed 8%,
   - Self employed 58.4%.
5. Average family sizes 14 individuals.
6. Average number of children less than 5 years old = 4 per household.
7. Other family members supporting the family by earning income/wages:
   - Yes 52.2 % (1 in 46.6% of the families, 2 in 15.5 % of the families, >2 in 37.9% of the families)
   - No 47.8%.
8. Average monthly expenses of the family:
   - Mean Rs. 8696 per month,
   - Median Rs. 7000 per month,
9. Percent of those interviewed who had heard of the disease Malaria:
   - Yes 100 %,
   - No 0%
10. Knowledge of signs and symptoms of the disease:
    - Fever, Chills, Headache, Joint Pains and Backache 31.6%,
    - Fever and Chills 20.2%,
    - Fever, Chills and Joint Pains 6.1%,

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- Fever, Headache and Joint Pains 4.4%,
- Other combinations 37.7%.

11. Knowledge of the causes of malaria:
    - Mosquitoes 39.8%,
    - Mosquitoes, Dirt and Stagnant water 23.9%,
    - Mosquitoes and Dirt 17.7%,
    - Mosquitoes and Stagnant water 8.8%,
    - Other combinations 9.8%.
12. Place to seek help first, when they think they have malaria:
    - Go to clinic (BHU) 88.6%,
    - Go to pharmacy 0.9%,
    - Blood smear 10.5%,
    - Self-treatment 0%,
    - Other 0%.
13. Average number of individuals who suffered from malaria during the last one year 9 persons per household.
14. Average amount of money spent per malaria patient Rs 249.5
15. Mosquitoes as a problem in the area:
    - Yes 100%,
    - No 0%.
16. Knowledge of ways and means to protect himself from malaria :
    - Spray 10.2%,
    - Bednet 17.3%,
    - Insect Repellants 17.3%
    - Combinations of the above 19.5%,
    - Don't know 17.3%,
    - Other 18.4%.
17. Knowledge of Bednets:
    - Yes 83.3%
    - No 16.7%.
18. Existing nets in the family:
    - Yes 7% (Average number per family 1.3)
    - No 93%.
19. Willingness to buy insecticide treated nets from the clinic at the rate of Rs 250 per net
    - Yes 75.4%,
    - No 24.6%.
20. Average number of Bednets people wants to buy 3.1 per family:
21. Sleeping habits of the people during summer:
    - Inside 19.3%,
    - Outside 80.7%,
    - On the floor 50%,
    - On the bed 50%.

Annex 18

HEALTHNET
INTERNATIONAL

ALLOWANCES FOR PARTICIPANTS OF TWO DAYS BASIC TRAINING WORKSHOP ON BEDNETS IMPLEMENTATION

Project : Refugee Project Date : 2/6/2000

No.	Name	Agency	Payment per day	Nights/ No.days	Amount	Signature
1	Abdul Manan	PDH	150	3	450	
2	Nabi Jan	PDH	150	3	450	
3	Fazal Azim	SCF	150	3	450	
4	Mir Dad Khan	SCF	150	3	450	
5	Boostan Khan	SCF	150	3	450	
6	Khan shah	PDH	150	3	450	
7	Hafez. Sher Ghani	PDH	150	3	450	
8	Naseer Ahmad Gharwal	PDH	150	3	450	
9	Rohul Amin	FPHC	150	3	450	
10	M. younas	LDI	120	2	240	
11	Taweez Khan	PDH	150	3	450	
12	Said Jaffar	PDH	150	3	450	
13	Ab. Jalil	UAAR	120	2	240	
14	Khanemullah	UAAR	120	2	240	
15	Qayam-u-Din	PDH	150	3	450	

Comments :

Total 6,120

Paid by : ____________ Approved by : ____________

11 - A Circular Lane, P.O. Box 889, University Town, Peshawar, Pakistan
Tel : (92) 91 - 844474 & 42551 Fax : (92) 91 - 840379
E-mail: hnipesh@pes.comsats.net.pk

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HEALTHNET
INTERNATIONAL

ALLOWANCES FOR PARTICIPANTS OF TWO DAYS BASIC TRAINING WORKSHOP ON BEDNETS IMPLEMENTATION

Project : Refugee Project **Date :** 2/6 /2000

No.	Name	Agency	Payment per day	Night/ No.days	Amount	Signature
16	Abdul Rahim	PDH	150	3	450	
17	Badshah Zada	PDH	120	2	240	

Comments :

Total 690

Paid by : ____________ **Approved by :** ____________

Annex 19

Ann. 19

HealthNet International
Malaria and Leishamaniasis Control Programamong Afghan Refugees
Basic Training Course for Bednet Implementors
18th and 19th of May, 2000

S. No	Date	Day	Subject	From	To
1	18/05/00	Thursday	Registration and introduction of the participants	8:00 AM	8:30 AM
2			The disease Malaria, its Epidemiology,	8:30 AM	9:15 AM
3			Life cycle of malarial parasite	9:15 AM	9:45 AM
4			Parasite and the Mosquito	9:45 AM	10:30 AM
5			***Refreshmsnt***	10:30 AM	11:00 AM
6			Basic Principals of malaria control and prevention	11:00 AM	12:30 PM
7			***Lunch and Prayers Break***	12:30 PM	2:00 PM
8			Introduction to Insecticide Treated Net Projects	2:00 PM	3:00 PM
9			Implementation of ITN Projects	3:00 PM	4:00 PM
1	19/05/00	Friday	Operational aspects of ITNs	8:00 AM	9:00 AM
2			Monitoring and evaluation	9:00 AM	9:30 AM
3			Rcord keeping and reporting	9:30 AM	10:30 AM
4			***Refreshmsnt***	10:30 AM	11:00 AM
5			The role of Health Education	11:00 AM	11:30 AM
6			Practical sessions	11:30 AM	12:30 PM
7			***Lunch and Prayers Break***	12:30 PM	2:00 PM
8			Bednet Impregnation	2:00 PM	2:45 PM
9			Practical demonstration	2:45 PM	3:15 PM
10			Video session	3:15 PM	4:15 PM

Annex 20

HEALTHNET
INTERNATIONAL

The Project Director (Health),
Afghan Refugees,
NWFP.

Dated: 27/4/2000

Re: Chadar/Curtain Impregnation Campaign in Chitral Refugee clusters.

Dear Sir,

Chadar/Curtain Impregnation campaign for the Refugee clusters in Distt. Chitral was launched on 29th March 2000, as per schedule. The intervention was carried out due to high prevalence of Anthroponotic Cutaneous Leishmaniasis among the refugee populations residing in the area. Based on CL registration data obtained from the MHU Chitral, the intervention was conducted in the following clusters:

- Kalkatak
- Nagar
- Khairabad
- Kaisu
- Ursaik
- Domshaghor
- Urghuch
- Jughor

HNI's team supervised various technical and operational aspects (record keeping, insecticide usage, preparation of working dilutions of the insecticide etc.) while the overall activity was conducted by the concerned Community Health Supervisors and the Community Health workers.

The important aspect of this campaign which needs special mention is that no labor wages/costs were paid at all and the activity was completed exclusively through community participation. However, the voluntary contribution of the Community Health Workers was appreciated and HNI distributed certificates to 24 CHWs (sample attached)

11 - A Circular Lane, P.O. Box 889, University Town, Peshawar, Pakistan
Tel : (92) 91 - 844474 & 42551 Fax : (92) 91 - 840379
E-mail: hnipesh@pes.comsats.net.pk

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The details of the campaign are as under:

S. No	Camp	Population	Dates	Total chadars/curtains impregnated	Total Bednets Impregnated	Amount of Deltamethrin SC 50 used
1	Kalkatak	2684	29-30/3/2000	4731	224	13.6 liters
2	Khairabad	1139	31/3/2000	1997	98	6.9 liters
3	Nagar	370	30/3/2000	680	40	1.9 liters
4	Kaisu	462	31/3/2000	900	62	2.7 liters
5	Ursaik (Refugees)	950	19-20/4/2000	1560	52	4.5 liters
6	Ursaik (Locals)	3500	19-20/4/2000	4025	5	10.1 liters
7	Domshaghor	1800	20/4/2000	2200	127	6.6 liters
8	Urghuch	400	21/4/2000	347	10	1 liter
9	Jughor	260	21/4/2000	255	3	0.7 liters
5	**TOTAL**	**11565**		**16695**	**621**	**48 liters**

A total of 50 Liters of Deltamethrin SC 50 was received from Azakhel stores on 21/3/2000.

Best regards,

Dr Fayaz Ahmad,
MLCP Coordinator

Cc for information:

- Dr Syed Jaffar Hussain DD HIS/MLC (Project Directorate Health for A/R)
- Dr Saifullah Khan, FSMO Bajawar/Dir.
- Mr. Abdul Hamid Khan, District Administrator A/R Chitral
- Dr Naveeda Bano, Program Officer (Health), UNHCR BOI
- Mr. Dost Muhammad Yusafzai, UNHCR SOP.
- Mr. Ziarat Shah, Incharge MHU Chitral.

Annex 21

To: **The Project Director (Health)**
Afghan Refugees Organization
Balochistan, Quetta.

The Director
Health Net International
Peshawar.

Subject : **" TOUR NOTES OF MR. JAVED IQBAL MALIK, DEPUTY PROGRAMME COORDINATOR HNI-PDH QUETTA FOR THE MONTH OF MAY, 2000 "**

Visited Afghan Refugee Camps of Posti, Makkantuk, Chaghi, Leji Karez, Gurgage, New / Old Saranan, Muhammad Khel, Malgagai, Katwai, Ghazgi Minara and Zar Karez for the supervision of Passive Case Detection, which observed to be quite satisfactory.

Pre spray vector mosquitoe density study was carried out in all the camps by hand captured method to know the seasonal prevalence. Very low / moderate vector density was observed due to scarcity of water. After the residual intradwelling spray of 1999, Anophelese culicifacies species has been annihilated locally in almost all the camps whereas Anophelese stephensi is prevailing. Detailed report is appended below :

S.No.	Date of		Name of Afghan Refugee Camp	No. of Rooms Checked	A. Culi.		A. step.		Total Rooms + Ve	
	Survey	Spray			F	M	F	M	A.culi.	A.step.
1.	2-5-2000	7-8-99	Posti	8	0	0	7	3	0	5
2.	3-5-2000	5-8-99	Makkantuk	8	0	0	23	5	0	7
3.	3-5-2000	2-8-99	Chaghi	6	0	0	1	0	0	1
4.	3-5-2000	2-8-99	Leji Karez	6	0	0	3	0	0	2
5.	4-5-2000	8-8-99	Gurgage	6	0	0	2	1	0	1
6.	23-5-2000	Unsprayed	New/Old Saranan	16	0	0	0	0	0	0
7.	24-5-2000	25-6-99	Muhammad Khel	8	0	0	11	2	0	5
8.	25-5-2000	28-6-99	Malgagai	6	4	1	9	3	3	4
9.	26-5-2000	6-7-99	Katwai	8	0	0	6	2	0	3
10.	26-5-2000	23-6-99	Ghazgi Minara	8	0	0	9	4	0	4
11.	27-5-2000	24-6-99	Zar Karez	8	0	0	4	1	0	3
		TOTAL :		88	4	1	75	21	3	35

Vector density study observed nil in new / old Saranan due to non-availability of proper breeding places. Larval survey was also carried out in the available breeding places, but none of the larva was found due to brackish water without any vegetation and elephant grass in the breeding places.

Continued Page 2

Ann. 21/2

Larval survey conducted in Malgagai camp revealed 8.4 Anopheline larvae / dip due to better breeding places. In this camp larviciding will be carried out from 2nd week of June, 2000 on fortnightly basis with abate 500 EC – 50% (Temephos) which is an organo phosphorus derivative. Practical training was imparted to both the Outreach Health Workers for the identification of Anopheline / Culex larvae with all the four stages. Filling of the newly introduced proformae and making the required doses were also explained to them in length. (Forms attached).

Susceptibility test was carried out on Anophelese stephensi against Deltamethrin 0.50% in Makkantuk, District Chaghi to know the latest susceptibility level. Results revealed that this specie is susceptible to Deltamethrin, although the specimen exposed are not sufficient but still it gives a healthy indication. Detail is appended below :-

S.No.	Name of AR camp	Date of		Nos. of minutes mosquitoes exposed	Species	Delta-meth-rin 0.05%			Control			Remarks
		Test	Spray			Dead	Total	% Mort	Dead	Total	% Mort	
1.	Makkantuk	3-5-2000	5-8-99	60	A.step.	13	13	100 %	0	8	0.0%	Susceptible

Residual intradwelling spray will be started in the camps of District Quetta and Loralai from 19-06-2000 and relevant training / instructions on the safe use of insecticide will be imparted to the concerned Field Supervisory Medical Officers, Medical officers / Master Trainer and Outreach Health Workers during the first fortnight of June, 2000.

JAVED IQBAL MALIK
Deputy Programme Co-ordinator
HNI – PDH Office, Quetta

Ann. 21/3

DOSE OF ABATE (TEMEPHOS) 500 EC – 50%

FOR

CLEAN, NORMAL, SHALLOW POND, LAKES AND STREAMS.

FOR ONE HECTARE (10000 SQUARE METRE) = ***125 ml of abate.***

1 Square Metre = ***125 / 10000***

= ***0.0125 ml / sq.metre.***

The abate emulsion should be sprayed with the help of Hudson's sprayer using HSS 8002 nozzle tip and keeping the pressure of 40 PSI. The discharge rate of HSS 8002 nozzle tip at mean pressure of 40 PSI is 757 ml / minute or 12.6 ml / second.

So for 8 Litres (8000 ml) pump

Area to be treated	**Abate required (500 EC – 50%)**
320 Square Metre	***4 ml.***

Hence for **1 square metre** = **4 / 320 = 0.0125 ml / sq. metre.**

In moderately / highly polluted water collections having organic matters or if the depth is more than 10 cm (4 inches) dose can be doubled / adjusted accordingly. Excellect results can be achieved if abate applied on early larval stages.

HOW TO USE ABATE EMULSION 500 EC – 50%

1. Open the drum at BHU.
2. Transfer all the abate content into 1 to 2 litres of bottle with efficient cover and keep under lock and key.
3. Pour a small amount of abate from the bottle into porceline cup.
4. Arrange clean vials of 10 cc capacity into a row. Vials should have tight covers.
5. With the help of syringe measure 4 cc from the cup and transfer to the vials.
6. Use 1 vial for 8 litres of pump load and spray over the breeding places as already explained.

JAVED IQBAL MALIK
Deputy Programme Co-ordinator
HNI – PDH Office, Quetta

Ann. 21/4

CONSOLIDATED RECORD OF THE APPLICATION OF LARVICIDING IN THE AFGHAN REFUGEE CAMP OF MALGAGAI, DISTRICT ZHOB / LORALAI

BALOCHISTAN PROVINCE

Name of Larviciding = Abate 500 EC - 50% (Temephos - OP)

Dose Applied	

Breeding Places Numbers	Date of Application	Surface area Covered (Sq. Metre)	Remarks
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Incharge Medcial Officer
Malgagai Camp

Outreach Health Worker
Malgagai Camp

Ann. 21/5

ANOPHELESE / CULEX LARVAE SURVEY RECORD

: ____________________ Name of Afghan Refugee Camp : ____________________

e of Collector : ____________ Date of last Larviciding / treatment (Abate) : ____________

BALOCHISTAN PROVINCE

Breeding Places No.	Date of Survey	Collection Numbers Total Dips	Pollution Yes / No	Vegetation	Type of Breeding Places			Sunlight			Total No. of Anopheline Larvae		Total No. of Culex Larvae		Anophelin + Culex Pupae
					Temporary	Permanent	*	Full Sun	Partial Shade	Heavy Shade	1 - 3	4	1 - 3	4	
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
Total :															

* Lake, Pond, Swamp, River, Stream, Seepage, Ditch, Irrigation, Hoofprints, Reservoir, Artificial, Container, Well, Cesspool, Rice Field etc.

Outreach Health Worker
Malgagai Camp

Incharge Medcial Officer
Malgagai Camp

Ann. 21/6

(2)

ANOPHELESE LARVAE SURVEY RECORD

District : CORAGAI
Tehseel ____
Thana ____
Name of Collector TARIQ IQBAL MALIK
Date of Survey 25.5.2000
Date of Spray 22.8.1999

ONLY FROM ONE SPOT.

Name of Village MALGIAC
Spray Status ~~[illegible]~~ - SPRAYED DURING 8.1999

Collection Number	Number of Larvae/Dip	Description of breeding course	Degree of turbidity	Pollution Yes/No	Delluting Substance	Vegetation	TYPE OF BREEDING PLACE						SUN LIGHT			Total No. of Larve ANOPHELINE		——		—— CULEX		A. ——		A. ——		A. ——		A. ——	
							Temporary	Permanent	Ground	Container	Movable	Immovable	Full Sun	Partial Shade	Heavy Shade	1-3	4	3	4	3	4	3	4	3	4	3	4	3	4
1	6	STREAMS		NO		YES		✓					✓			4	2			0	0								
2	7	"		"		"		✓					✓			3	4			0	0								
3	5	"		"		"		✓					✓			3	2			0	0								
4	12	"		"		"		✓					✓			9	3			0	0								
5	9	"		"		"		✓					✓			5	4			0	0								
6	3	"		"		"		✓					✓			1	2			0	0								
7	11	"		"		"		✓					✓			7	4			0	0								
8	16	"		"		"		✓					✓			11	5			0	0								
9	4	"		"		"		✓					✓			2	2			0	0								
10	11	"		"		"		✓					✓			5	6			0	0								
	84															50	34												

* Lake, Pond, Swamp, River, Stream, Seepage, Ditch, Irrigation. Hoofprints. Reserviour, Artificial, Container, Well, Cesspool, Rice Field,.Etc.

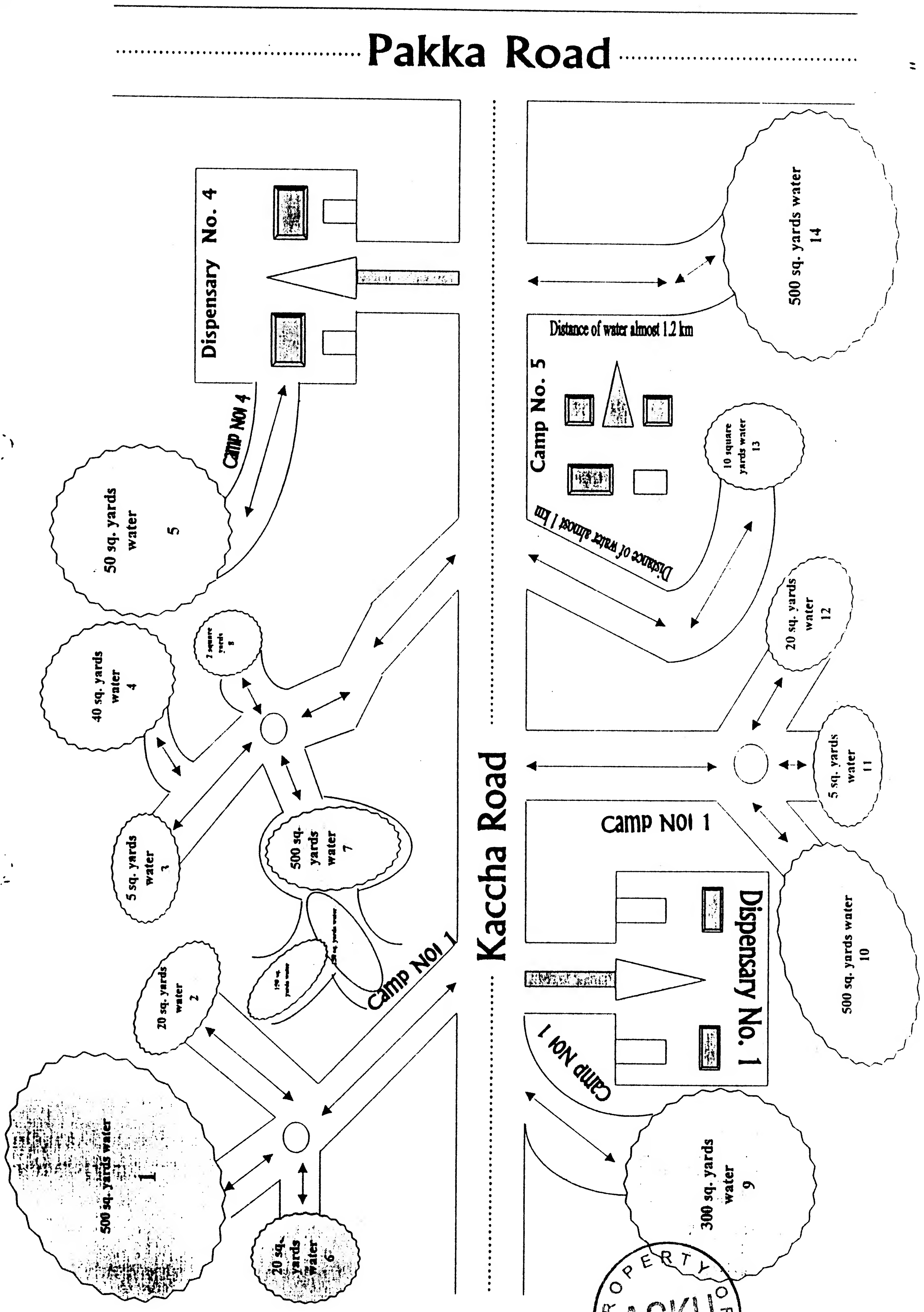
8.4 / Dip

DEPUTY PROGRAMME COORDINATOR MAL - FOR QUETTA

ANLRSRRE.XLS

Annex 22

EXISTING BREEDING PLACES OF MALGAGAI CAMP



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